

WHOLODANCE

Whole-Body Interaction Learning for Dance Education

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Interviews report

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Executive Summary

Dance brings together intellectual, emotional and physical intelligence and offers a unique opportunity to explore a range of ideas and questions. The art form lends itself to critical engagement and is a way which teachers, practitioners, artists, dancers and technologists can interact and exchange ideas. WhoLoDancE is a three year EU-Funded Horizon 2020 Project that explores technology-based dance learning and whole body interactions. The project will use advanced capturing methods and transfer the data generated to a series of motions that can be blended and used within a variety of teaching contexts. This deliverable explores how dance, teaching and digital technologies interact and the themes that emerge. The report responds to a specific set of questions around movement principles. This document will focus on presenting research findings carried out primarily by the COVUNI team but will include work from other consortium partners such as ATHENA, Lynkeus, LCGW, K.Danse and STOCOS. The above mentioned partners contributed in the recruiting of professional dancers and teachers and distributed and collected a number of questionnaires that were used for this deliverable. An examination of how dance, technology and movement principles align is at the crux of this document and the data generated from this work, will directly feed into later parts of the project.

Relationship with WhoLoDancE Project:

WhoLoDancE will introduce innovative technologies for dance learning, based on the underpinning of interoperability standards and on the integration of different components into a smart learning environment. The WhoLoDancE digital ecosystem for dance learning will include both formal and informal learning, developing and integrating tools and systems that apply adaptive learning, augmented cognition technologies, affective learning, micro-learning, game-based learning and virtual environments/virtual worlds to real-life learning situations, with the effect of speeding up the rate of technology adoption for the modernization of dance education and training.

WhoLoDancE will improve the use of educational technologies and learning analytics, using existing databases of content related to dance and choreography, as well as existing choreological and educational tools for analysing movement, taking in depth account of data provided by motion tracking of dancers. To do this, the consortium needs to consider the language used not only by dancers and teachers but also by technologists who have a relationship with dance and digital technologies. This report builds on the Task 1.1, State of the Art Survey, which gave an overview of previous use of ICT for dance learning and lists teaching methodologies for each dance genre.

Structure of the Document

The structure of this document frames the work carried out by COVUNI in relation to the Movement Principles and series of questionnaires and interviews conducted over the last three months:

- Chapter 1 will explain the methodology and approach to the research.
- Chapter 2 will provide details of the ethical considerations underpinning the research.
- Chapter 3 will outline the profile of the dancers and technologists interviewed.
- Chapter 4 will explain the findings and conclusions.

Chapter 1

1.1 Introduction

The success of the WhoLoDancE project is dependent on being able to build a repository of dance movements and to do this we need to draw on the expertise and experience of dancers, teachers and choreographers from a range of dance genres. In addition, we also need to utilise the knowledge of technical experts to assist with design and application of digital tools. The project team, incorporating Laban movement analysis terms, which originate from research into human movement, designed a set of Movement Principles (see Appendices). They were established to encapsulate the essence of movement and are fundamental to the design of the software. The Principles drew on the collective knowledge and experience of the consortium, which includes dance and technology experts. The work in this task focuses on testing out the validity of these Movement Principles and their application by gathering the views of and feedback from the wider dance community and those working in new technologies. These Movement Principles therefore formed the foundation for designing the questionnaire and interview questions.

1.2 Methodology and Approach

While dance and digital technologies are not new areas of research, the unique perspective of the project is a fairly recent approach. This work lends itself to qualitative and quantitative research methods and for this reason interviews and paper questionnaires were used to frame this report. A range of resources were consulted before carrying out this work and a series of meetings amongst the COVUNI team members and the project partners took place in the preparing of the various documents used to carry out the interviews and the writing of this report.

We aim to interview approximately 10 participants with a pre-determined set of questions and the use of a mind map that will help to extract the necessary information to assist with the progress of the project. The interviews will be audio recorded for analysis purposes. Most interviewees will be drawn from the project contacts.

All interviewees will receive a Participant Information Sheet and be required to sign an Informed Consent Form as a mandatory precondition for their involvement in the activity. Coventry University's ethics committee has approved these documents before distributing to participants. Gaining ethical approval ensures that the project team is proceeding responsibly with due care for the participants and the storage of data that will be produced as part of the data capture process. Whilst it is not possible to anonymise the audio recordings, these recordings will be made as part of the research process for internal analysis and reference only, to assist in the database creation process and the design of the digital tools so will not enter the public domain without prior permission being specifically sought from the participant. All audio recordings will be retained securely and no personal data of the participants will be stored.

It is the duty of all researchers to ensure that any research activity meets the highest ethical standards. The project team has submitted the documents for ethical review and clearance to Coventry University's research committee in line with its requirement that all subject related research obtain ethical approval before undertaking any research involving human participants (See Appendix). WhoLoDancE falls under Coventry University's requirement that ethical approval is required for any research, design studies, artistic studies, experiments, survey work, questionnaires, interviews, focus groups or case studies.

1.3 Recruitment of Interviewees and Interview Procedure

Each interviewee received a Participant Information sheet and Informed Consent form to sign. The Participant Information sheet contains details of the project and what the material collected from the interview will be used for. Interviewees were recruited from:

- completing a WhoLoDancE questionnaire – there is a section at the end of the questionnaire that asks if the participant is willing to be interviewed
- personal contacts in the dance field
- individuals working on similar digital and dance projects
- work colleagues

Interviewees are asked the questions from the relevant interview question template and set of movement principles, and their answers are recorded. The mind map may be used if the participant finds a question difficult to answer or wants to complete this post-interview, once they have had time to reflect on the questions asked. The aim of the mind map is to capture more qualitative and reflective feedback, which enables the interviewee to provide additional information that might offer insights that might not be easily captured through the question format.

Chapter 2

2.1 Ethics in Research

When performing experiments on humans, WhoLoDancE will also strictly observe, in every detail, the Charter of Fundamental Rights of the EU. In particular, it will guarantee the right to the integrity of persons (Article 1) and will conform with any detail in Article 2, respecting the free and informed consent of any person concerned in the experiments, avoiding any use of making the human body or its parts a source of financial gain, and being not concerned with eugenic practices and cloning.

Concerning the inclusion of human beings in experimental activities, WhoLoDancE will comply with relevant national and international regulations, and special attention will be paid to the observance of Article 5 of the Convention of the Council of Europe on Human Rights and Biomedicine, signed in Oviedo on 4 April 1997, regarding free consensus of healthy and disabled people (Article 17) in cases of experiments conducted with humans.

Finally, all data will be stored in secure and locked storage, or through encrypted computer files, to protect personal data and to comply with the relevant national and EC regulations regarding data protection. If an ethical issue arises, WhoLoDancE will act in accordance with Directive 95/46/EC of the European Parliament and the Council of 24 October 1995 concerning the processing of personal data and the free movement of such data. On principle, every effort will be made to preserve the privacy of the participants, which means that in general the dancer's identity will be kept confidential by default, unless they themselves wish to be identified and their involvement to be published.

Please note that a copy of our Certificate of Ethical Approval can be found in the Appendices.

Chapter 3

3.1 Profile of Dance Interviewees

The COVUNI team has carefully selected its interviewees and chosen individuals from various backgrounds, demographics and nationalities. This decision was made to ensure that we gather a multilingual and international perspective of the language used by dancers and teachers from various backgrounds. In addition to interviewees based in Europe, interviewees also come from Singapore, Australia, Nigeria and the US. The COVUNI team approached an equal number of men and women for interviews but was unable to successfully secure an equal gender ratio. Age was also a key component that was considered as we have dancers and teachers as young as 22 to 50+ years of age. Some of the dancers and teachers have varied practices ranging from African, yoga, Bartenieff fundamentals and other somatic practices, to contemporary, ballet, and folk dances. A core aim of the interview process was to secure respondents representing a broad range of dance genres.

3.2 Profile of Technologists

Similar to the careful selection process of the dance interviewees, the same approach was applied to the recruitment of technologists. We have chosen individuals from various backgrounds, demographics and nationalities. Experts were approached and a series of desk-based researches was carried out beforehand. We have secured interviews with technologists from a range of fields. Some of the individuals are directly working with dancers or professional dance companies while others have developed applications for other European cultural heritage projects. We have also gathered a multilingual and international perspective of technologists and coders, some of these coming from contacts from the other partners of the project. The majority of technologists are males although women were actively sought for and approached. Age was another important factor. At the time of writing we have technologists whose ages range from 25-35 years of age. The programmers interviewed identify as coders, programmers, lighting, video and game designer technicians.

Chapter 4

4.1 Primary Analysis

The interview template (See Appendix) is split into three sections with related questions underneath. Below, are some of the responses from the interviewees relating to the sections. In a general sense, the career development characteristics of the interviewees is therefore an eclectic approach to dance training, teaching and performance. Many have studied and practiced a variety of dance styles and genres. Under the movement principles section, imagery is a core part of the dancer's toolbox, for both teaching and performing. The imagery is derived from numerous sources. Some are derived from specific codified practices (e.g. Skinner Release Technique, Body Mind Centering, etc) whilst others are more poetic and personal, or are rooted in biomechanical or

anatomic principles. For the final section when dance and technology was discussed, all interviewees were comfortable with the integration of technology into their work, even if the technology is more basic and easy to access and incorporate. Some indicate a more expert integration of technology and an interest in the potential for more sophisticated technology to enhance their practice. A unique division was found when asked about using technology to development movement. Some participants are open to technology being directly part of their creative process when it is focused on creating movement phrases whilst others do not see technology having a direct role in body-based movement development.

Career Development

The interviewees were asked about what their training background was and how they have progressed in their careers. These are their responses:

Interviewee 1 – not a classical teacher, took ballet at seven years, then at ten years old went to the National Ballet of Amsterdam. Quit at 13 years. Pre-school training. MA in Anthropology and participates in Five Rhythms. Now researching dance and facilitates movement medicine.

Interviewee 2 – trained at Laban, now runs instead of dancing. Emphasis on somatic way of thinking from training at Laban. Now researching dance and lectures occasionally.

Interviewee 3 – did ballet, modern dance from young age. Spent two years at Laban doing the Professional Diploma. Started MA, now doing PhD and makes work, also teaches in HE.

Interviewee 4 – did ballet, jazz, tap and modern dance from young age. Educational syllabus, Cecchetti ballet, ISTD tap, contemporary. BA Dance at QUT (Australia), Argentinian tango, Latin dance and capoeira. Now is a teacher, choreographer, dance and visual arts artist.

Movement Principles

For this section, the interviewees were asked to look at the Movement Principles and identify two or three that resonated with them the most from a teaching perspective and a performance context. They were then asked to choose one which felt most important to them.

For teaching – alignment, motion through space, directionality, co-ordination, Gross vs Fine Motorics, balance, weight, symmetry.

For performing – motion through space, alignment, balance, co-ordination

One interviewee said, 'it depends on what is being performed'.

Principle that most resonates – alignment, co-ordination, balance.

All of the interviewees recognized the movement principles and were able to identify some that resonated more with their practice than others. For example, directionality, co-ordination, motion through space and alignment were important for teaching for some participants. When performing, two participants shared that they would think about the same principles as when they teach,

indicating that these principles are foundational knowledge and personal to their practice. Each interviewee appeared comfortable with the Principles as presented, suggesting that the Movement Principles identified and categorized within the project are appropriate and meaningful for the dance practitioners.

The final question in this section asked the interviewees what imagery they used, these were some of their answers:

- Combination of anatomical, biomechanical, metaphoric and kinaesthetic.
- internal and external space.
- Cinegraphic, texture, elemental, imagery to embody an emotional energy.
- Experiential anatomy – organs, Skinner Release imagery.
- Imagery is in languaging, metaphoric.
- Metaphoric images, uses natural images – water, animal tails etc.

Relationship with Technology

Here are the questions that were asked with the interviewees answers regarding the relationship and use of technology in their practice.

How do you use technology in your teaching/choreography?

‘I don’t use it’

‘video recordings when performing’

‘my research is around technology’

‘when teaching, I’ve used web resources in choreography class – Motionbank’

‘use an iPad in class to show an image’

‘I develop projects using technology, interacting with camera, live and virtual space, screen works and motion sensors’

‘I’m starting to develop a language that comes from technology’

‘I have a website, which is valuable. I use online resources’

‘I work with a composer and electronic sound, photography, digital slideshows...’

‘I use a mixing desk and Brittany microphone’.

Would you use technology to help you create movement phrases/sequences in the studio?

Yes – when making and developing solo work

No.

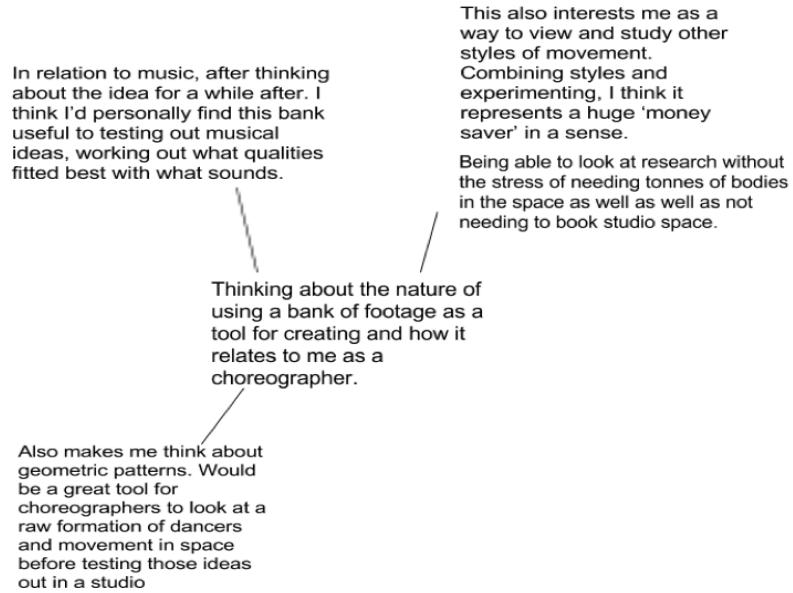
Mind map Samples

The Mind maps are graphical ways to reveal ideas and concepts and for this project they were used as a post interview exercise. The compositional exercise allowed the interviewee to share any ideas and thoughts and was an opportunity to reflect on their interview with the team member. What we observed is that many of the participants used the exercise to reflect more on their training and teaching methodology. Some participants also reflected on the use of technology and what it might mean to have a repository of movement available to them. Participant number 2 noticed that her/his thinking shifted the more s/he thought about the concept and use of technology and access to a repository. This was interesting to observe as in the interview the participant was adamant that they would not be interested in using someone else's movement as it would no longer be original. And as is seen with the mind map that thinking shifted.

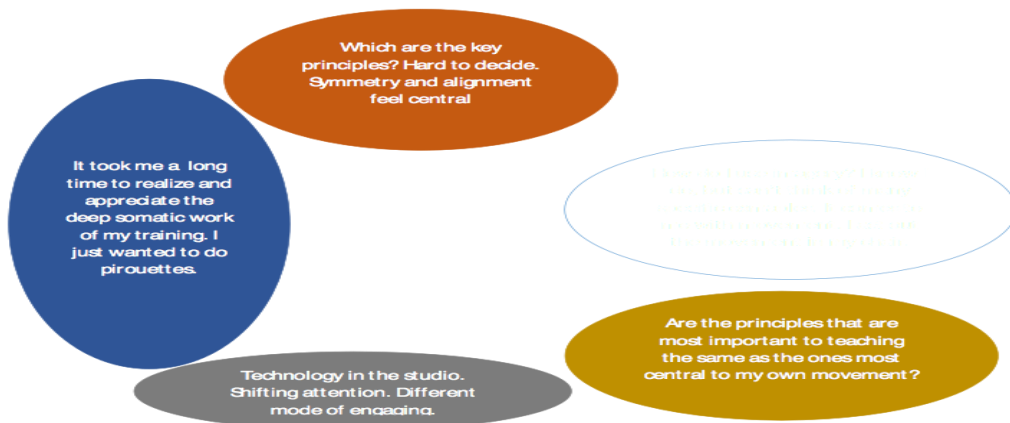
Participant 1:



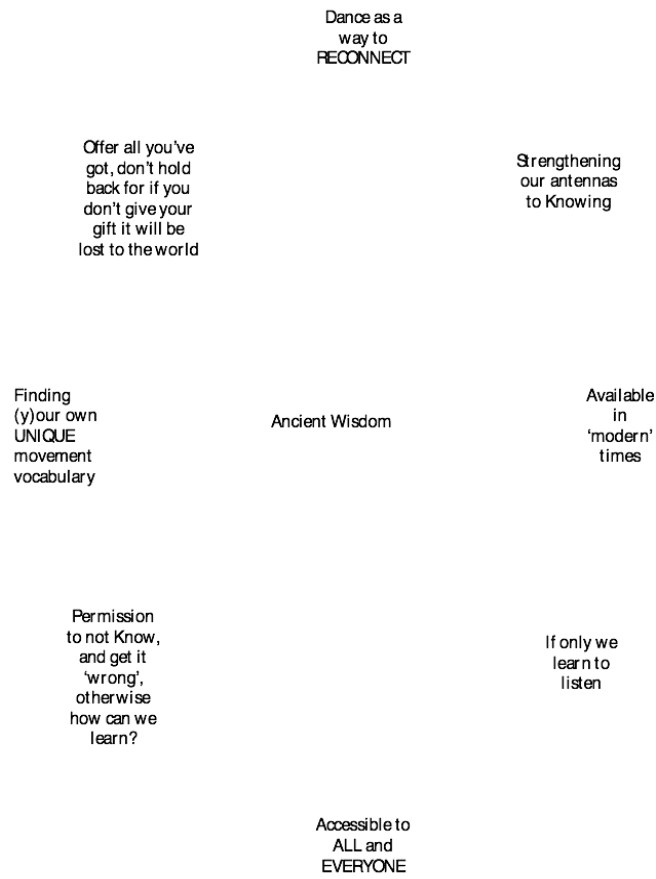
Participant 2:



Participant 3:



Participant 4:



4.2 Conclusion

There are themes emerging from the interview material collected thus far that reveal a vast amount of bodily knowledge held by the participants. With various routes into dance training, which includes conventional and non-conventional, a few key people influenced the interviewees during their training experience. This led to developing kinesthetic and instinctual approaches to teaching and performing movement. Different ways of thinking about the body and the sensual nature of human movement seem to be fundamental to their dance practices.

Most of the participants had varying experiences of teaching and revealed that they use imagery; ranging from metaphoric, anatomical to natural and cinematic imagery. Most of the time, a mix of different imagery types was used to explain qualities and dynamics of movement. The imagery that dancers use reflects their training and interests in the creative impulses for their work.

There was varying degrees of utilizing technology in teaching and performing. For example, one participant claimed that they did not use technology at all whilst another participant makes work with technology and uses technology in class when teaching – she shared an example where she uses an iPad in class to show the students anatomical images. Some of the participants agreed that they would use technology to help create movement sequences and some said they would not. Those already using technology were keen to see what would develop with the WhoLoDancE project. The responses therefore indicate a wide range of practices, which is not unexpected. But interviewees are generally open to the possibilities of technology supporting and enhancing their work, recognizing that technology can be a valuable tool in the dance studio and rehearsal environment.

All interviews responded well to the Movement Principles, thereby validating the Movement Principles as a reasonable foundation for the work on the project. Each interviewee was able to engage with the Principles in relation to their own work. The responses indicate that many dancers develop an expert practice through engagement with a range of dance techniques and modes of making/performing work. There are some dancers who develop an expert practice through focused training and technical development.

Appendix



Certificate of Ethical Approval

Applicant:

Karen Wood

Project Title:

Whole-Body Interaction Learning for Dance Education Project (WhoLoDancE)

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Participant Information Sheet

Study title: WhoLoDancE

What is the purpose of the study?

The purpose of the study is to interview you as a dance professional. The study will result in publications (text/video/online) and new technologies which will explore new methods for teaching and learning dance, and choreographic practices. The aim of the project is to develop and apply breakthrough technologies to dance in order to investigate bodily knowledge, preserve cultural heritage, innovate teaching and widen the access and practice of dance.

Why have I been approached?

As a dance professional involved in the project, we are keen to find out about your experiences. Your journey through your creative practice will provide valuable insights which will be of direct benefit to the research.

Do I have to take part?

No. Participation in the research is entirely voluntary. If you change your mind about taking part in the study you can withdraw at any point during the research and at any time in the two weeks following that session by contacting me using the email address stated below. There are no consequences to deciding that you no longer wish to participate in the study.

What will happen to me if I take part?

You will be invited to take part in an interview, which will be between yourself and a member of the project team. You may be invited for a follow-up interview or to take part in a focus group, which will feed into the research.

The interview may be conducted via Skype or in person. The interview may be filmed and/or audio recorded for the purpose of maintaining an accurate account of the discussion. The recordings will be transcribed and may be used as a source for writing up the project.

What are the possible disadvantages and risks of taking part?

One disadvantage is the time taken for the interview, and any follow-up discussions but I will try to keep this to a minimum and provide sufficient time for you to participate, taking into account any special requirements you have.

What are the possible benefits of taking part?

You will have the opportunity to reflect on your work and be involved in influencing new technologies in the area of dance practice. One aim of the research is to understand what principles you use when teaching dance, which will inform how the technology is developed; you will contribute to this and benefit from any technologies that emerge out of the project.

What if something goes wrong?

If you have any concerns, you can contact me at any time and you will know who to contact at Coventry University if you want to talk to someone who is not directly involved in the project, and who has responsibility for ethical research processes. If you decide to withdraw all your data will be destroyed and will not be used in the study.

Will my taking part in this study be kept confidential?

Only the research team will have access to the raw data which is collected through the project. All the consent forms will be stored in a separate, secure (locked) location from the raw data itself. I will only retain the raw data from the project until the end of the project reporting period (December 2018). They will then be destroyed. None of your contributions will be attributed to you personally without your prior agreement. You will be asked to approve how you feature in any filmed record, if relevant, before it is made public.

What will happen to the results of the research study?

The results will be written up and published in text/online/multimedia documents. Results will also be made public at public events (symposia etc). The results may also be presented at academic conferences and/or written up for publication in peer reviewed academic journals.

Who is organising and funding the research?

This part of the study is organised by Sarah Whatley, Professor of Dance at Coventry University with Ruth Gibson (Research Fellow) and conducted in collaboration with Dr Karen Wood, (Post-doctoral Research Assistant) and Rosemary Cisneros (Senior Research Assistant)

Who has reviewed the study?

This study has been through each participating research organisation's Peer Review process and been approved by the appropriate Ethics Leader in each institution.

Contact for Further Information

Sarah Whatley

s.whatley@coventry.ac.uk

(+44) 0797 4984304 (mob)

The Consent Statement

Participant Reference Code: WHL/ _____

I have read and understand the attached participant information sheet and by signing below I consent to participate in this study.

I understand that I have the right to withdraw from the study without giving a reason at any time during the study itself.

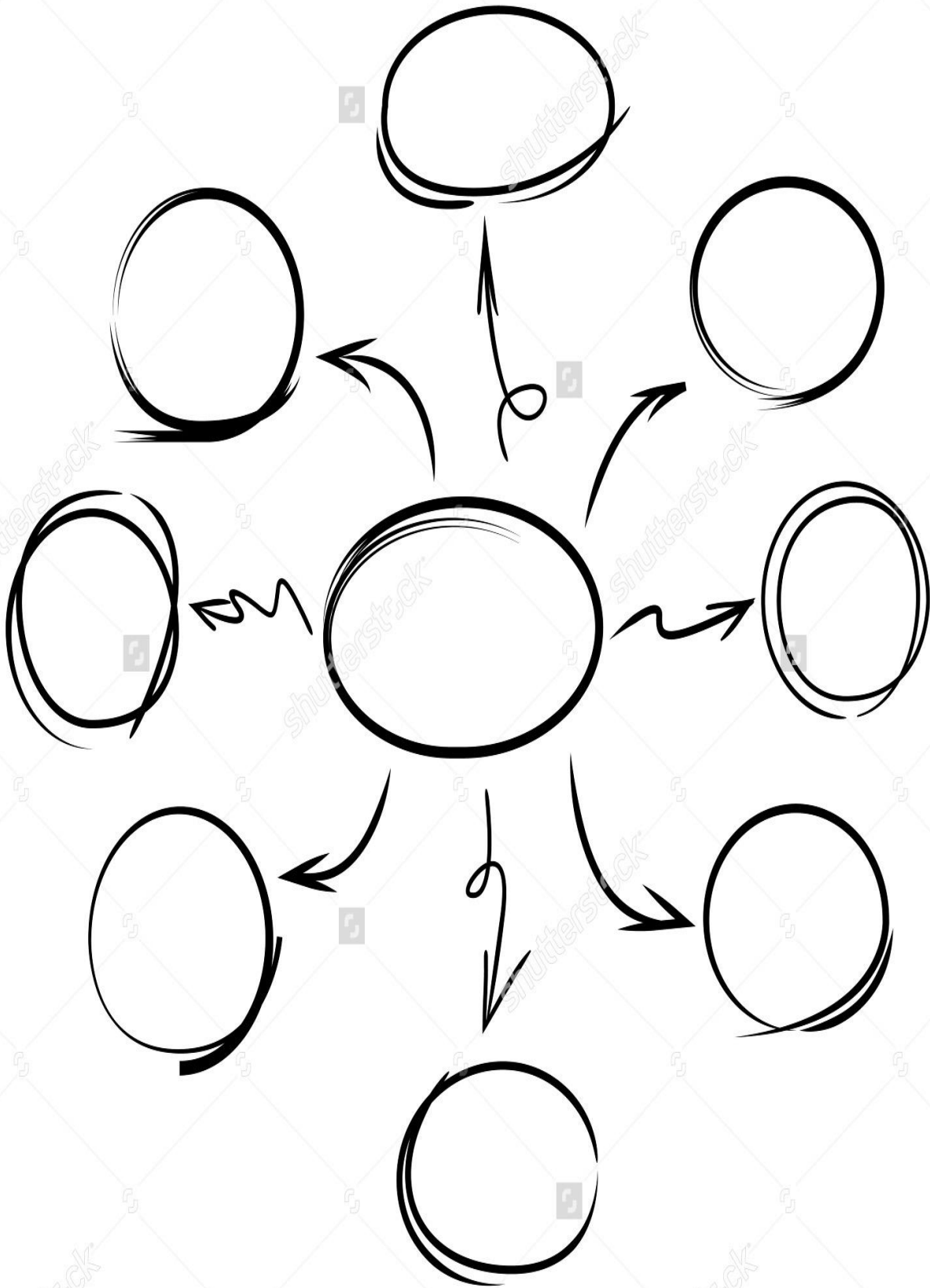
Signed: _____

Print Name: _____

Witnessed by: _____

Print Name: _____

Researcher's Signature: _____



Interview Questions

WhoLoDancE

| | | |
|---|------------------|--|
| Date / Time / Location | | |
| Interviewee | | |
| Interviewee's Role/Position/Dance Genre | | |
| Interviewer | | |
| Question | Notations | |
| Career Development | | |
| What dance training have you received? | | |
| What trajectory has led to your current professional status? (What have you done?) | | |
| What has been your experience of developing a career as a performing artist? | | |
| How are dancers trained to think about their body? | | |
| What factors create barriers to to you making and performing? | | |
| Movement Principles | | |
| Out of this list of Movement Principles (have separate list to show?), choose 2/3 that you use in your teaching the most? | | |

| | |
|---|--|
| Out of this list of Movement Principles (have separate list to show?), choose 2/3 that you think about when performing? | |
| Which of these principles resonates with you the most? Why? | |
| Do you use imagery when you teach/perform/choreograph? | |
| What types of imagery do you use? Eg. Anatomical, biomechanical, metaphoric, kinesthetic. Can you give examples? | |
| Relationship with Technology | |
| How do you use technology in your teaching/choreography? | |
| Would you use technology to help you create movement phrases/sequences in the studio? | |

| Interview Questions | |
|--|------------------|
| WhoLoDancE | |
| Date / Time / Location | |
| Interviewee | |
| Interviewee's Role/Position | |
| Interviewer | |
| Question | Notations |
| Career Development | |
| What is your technology experience? | |
| What technologies do you work with? | |
| Have you worked in collaboration with dance practitioners (teachers/artists) before? | |
| If 'yes', what was the nature of that work and what was your role in the work? | |
| If 'no', in what ways do you think your technical expertise would be useful to take into a dance context? | |
| Drawing on your own experiences and your knowledge of existing technology, do you think that technology supports the teaching and learning of dance, and if so how? | |
| Do you have any suggestions for new kinds of technology that could support the partnership between dance and technology to enhance the teaching and learning of dance? | |

| | |
|--|--|
| <p>If you work with digital technology what programmes do you use?</p> <p>Have you ever made an interactive tool for public use?</p> | |
| <p>Do you teach software, if so what programmes?</p> | |
| Technology in relationship with dance | |
| <p>We have created a list of Movement Principles (have separate list to show?) that we believe are fundamental to the teaching of different dance genres. Do these principles have meaning within a technological context?</p> | |
| <p>What interests you most about the relationship between the body and machine?</p> | |
| <p>Dance includes the movement of the body in time and space. Teaching dance often involves using imagery to enhance learning. How might technology support the use of imagery in the teaching and learning of dance?</p> | |
| <p>Have you employed visualisation techniques in your work, if so what type of rendering do you like to use?</p> | |
| <p>What is your view about the ways in which motion capture and holographic projections could support the recording, analyzing and archiving of dance?</p> | |
| <p>How can sensing technologies play a role within a dance context?</p> | |

| | |
|--|--|
| Dance is a combination of bodily action and movement quality. Can motion capture and holographic projections capture movement qualities? | |
| Do you value accuracy over a sense of flow in the animation process? Would you forego precision for expression? | |
| What if any are the challenges or limitations in technology recording and supporting the learning of movement qualities? | |
| How can technology add value to the teaching, learning and performing of dance? | |

Additional questions if needed

When you make tools for public use at what stage do you consider the user?

When do you start to engage the user? At what point in the process?

Are your tools like a musical instrument to be played?

Do your tools proffer particular results?

What type of visualisations do you find most conducive to learning?

How do these visualisations support your end goal?

What is your relationship to the hardware you work with? Do you use particular materials?

What is your experience of motion tracking/capturing tools?

Which motion tracking /capturing tools do you prefer to use and why?

What data cleaning processes are the most effective?

Movement Principles

1. **Symmetry:** The use of the two sides of the body (right vs. left side, arm, leg) etc., both in position and while moving. The ability to do the same thing simultaneously or sequentially using both sides. Each Movement Principle includes also the opposite. Playing with asymmetry and isometry is included in this principle.
2. **Directionality:** The awareness of body orientation in space. Usually this is derived from the position of hips and torso, but interesting postures might derive from the various directions of each body part in relation to a space, e.g., the audience, the camera, the studio.
3. **Balance:** The ability to stand and move in balance, but also out of balance, depending on whether the line of gravity falls within the line of your supporting limb(s) or not. The awareness of the different vector forces on your body.
4. **Alignment – Posture Stability:** The awareness of the geometry of the body (e.g., the axes (sagittal, horizontal, vertical) and planes, and how the relations of different body parts and joint create “lines” in the body shape.
5. **Weight bearing vs. Gesturing:** This principle is about the difference between movement that is concerned with bearing weight (weight transference, stepping, hand stands, etc.) and movement (gesture) that is not bearing weight but which has intention/expression
6. **Gross vs. Fine Motorics/Isolation/Articulation:** The ability to distinguish small movements done by specific body parts e.g., hand or one hip, or one shoulder, without moving the rest of the body, vs. moving larger parts of the body as a whole.
7. **Coordination:** One of the most important skills practiced in every kind of dancing, which is about the ability to synchronize or not different parts of the body that can move in the same or separate tempos.
8. **Motion Through Space:** Progressing through space or towards particular directions, paths etc. "Moving through space vs. dancing on the spot. Also the body as moving point in space, or as continuously changing moving volume.
9. **Rhythm and phrasing.** The ability to move in particular (predefined or improvised) rhythms. This principle is also about how the dancer’s movement is related or not to the music and its rhythmical aspects (tempo, time signature, rhythmic patterns etc.).
10. **Stillness.** While movement seems to be the essence of dance, a dancer needs to improve her/his ability to remain still, whether this is a part of a choreography or interpretation of rhythmical pauses, and exercise for balance and isolation of body parts. Stillness is usually connected to the notion of being present and has been investigated in previous interdisciplinary work.