Movement Intervention for Neurodegenerative Disease (M.I.N.D.): Dance for Huntington's Disease (HD)

Paul Dennis, Aubrey Johnson, Emma George



Overview

Mills the hare from ching at Tevrinburg Dayland
 Der reschoot in the harins in dance.
 Midsele brieflegment for literard Gode.
 Applying the Midsele frankligment to district exercision.
 Matter and Brasiles.









### Overview

- What we have been doing at Tewksbury Hospital
- Our interest in the brain on dance
- Multiple Intelligences by Howard Gardner
- Applying the Multiple Intelligences to our dance intervention
- Movement Session



# **Tewksbury Hospital**





www.youtube.com/watch?v=vd4xoEt4uPU









### What we are interested in

#### Dance addresses the WHOLE person







**Emotional** 



Cognitive

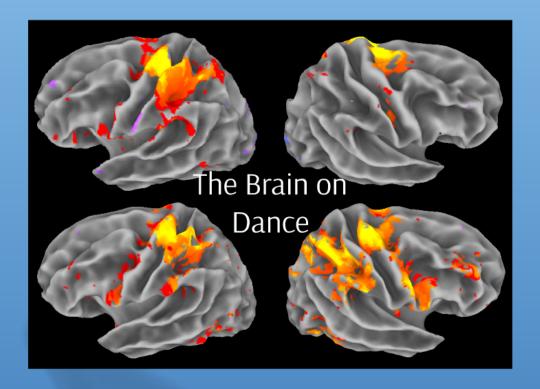
#### Assessment tools:

Unified Huntington's Disease Rating Scale (UHDRS).

- Motor Assessment
- Cognitive Assessment
- Behavioral Assessment
- Independence Scale
- Functional Assessment
- Total Functional Capacity (TFC)

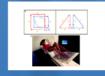
Tinetti Balance Assessment Tool Observational Gait Analysis





#### Multidimensional

- Both the brain and dance are multidimensional
   "The Neural Basis for Human Dance" (Brown, S. et al.)



#### Neuroplasticity

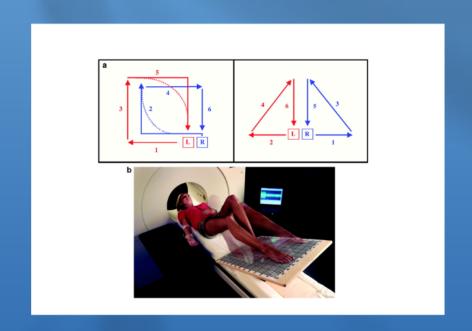
- New connectionsSynaptic plasticity
- Circumventing damaged





### Multidimensional

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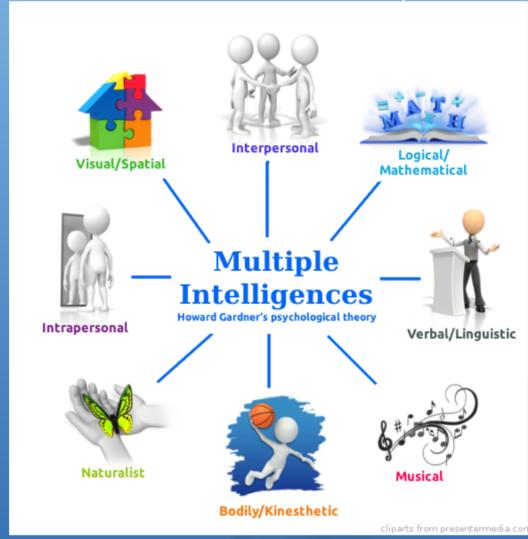
### Neuroplasticity

- New connections
- Synaptic plasticity
- Circumventing damaged areas





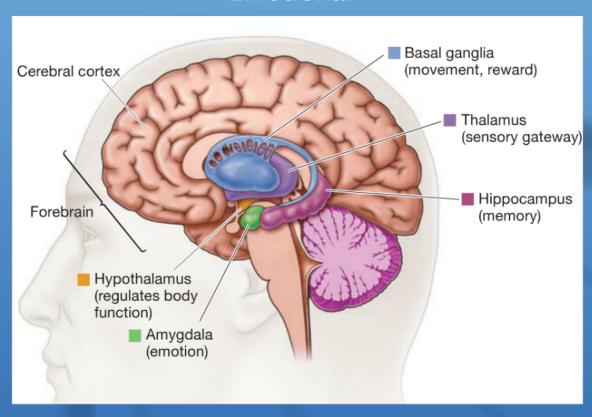
## DANCE IS UNIQUELY SUITED TO ADDRESS THE WHOLE BODY/MIND





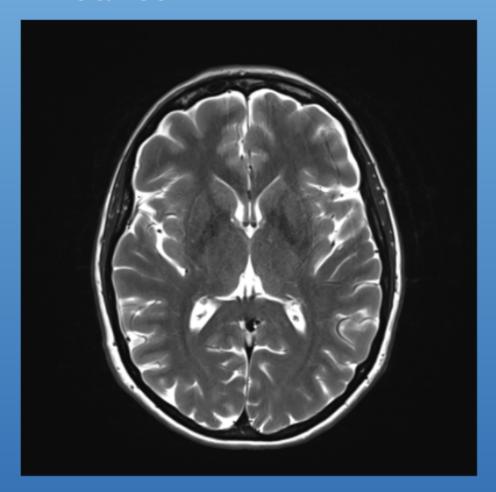
### Intrapersonal

- Self awareness
  - Spatial
  - Emotional





InterpersonalMirroring System and dance

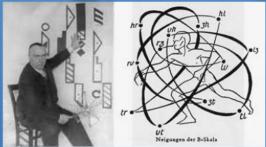




#### Laban/Bartenieff Movement Analysis (LMA)

- Observation
- Description
- Prescription
- Performance
- Interpretation
- Analysis

Rudolf Laban, 1879-1958
• Dance theorist and teacher



CHOREUTICS:
The art/science dealing with the analysis and synthesis of movement.

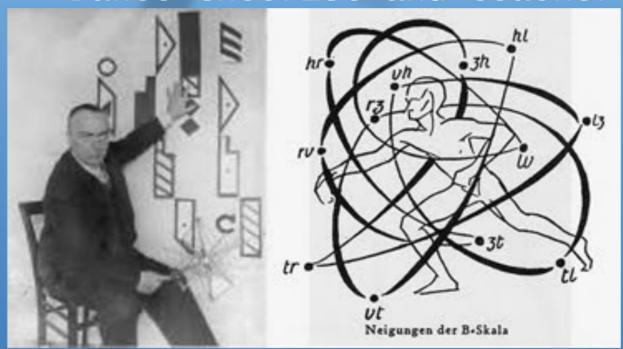


Irmgard Bartenieff 1900-1981
•Early proponent of LMA Combined
Developmental principles and LMA
theories

· Physical re-education.



# Rudolf Laban, 1879-1958 • Dance theorist and teacher



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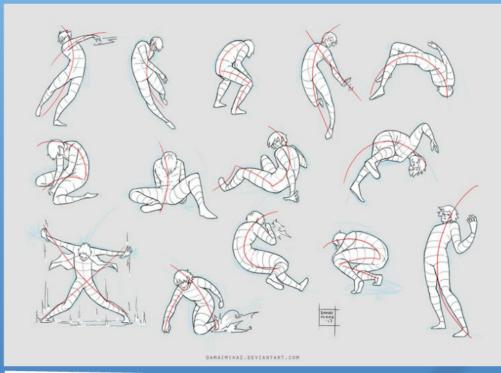


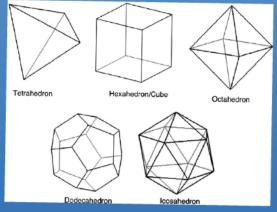
Irmgard Bartenieff 1900-1981

- Early proponent of LMA Combined Developmental principles and LMA theories
- Physical re-education.



### **Dynamic Space**

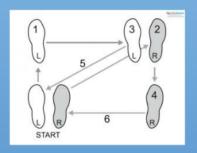








#### LOGICAL/MATHEMATICAL



- \* Detecting and working with patterns \* Understanding relationships among actions.
- \* Creative problem solving.

### LETS MOVE

NATURALISTIC



Use of natural surroundings Plant, animal, nature imagery



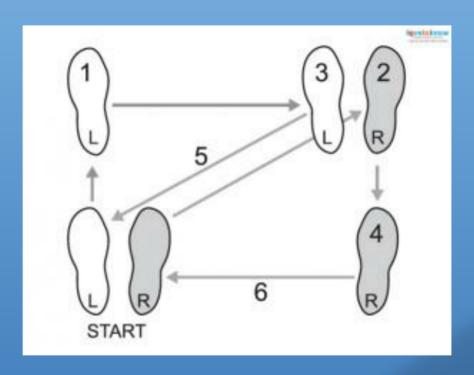
# NATURALISTIC "Lemon/Starfish" and "Gather/Scatter"



Use of natural surroundings Plant, animal, nature imagery



#### LOGICAL/MATHEMATICAL



- \* Detecting and working with patterns
- \* Understanding relationships among actions.
- \* Creative problem solving.



# Kinesthetic, Spatial, and Linguistic

#### Kinesthetic

Muscle Memory Motor Control



How can dance and movement techniques influence individuals with HD to gain enough motor control to perform daily activities?

#### Linguistic

- Highly developed auditory skills and think in words
- Listening and processing instructions
- Verbal and visual cues
- Giving teedback



#### Spatial

Space and Time



The HD patients were better at recalling objects, but not as good at recalling spatial locations (Brandt, Shpritz, Munro, Marsh, & Rosenblatt, 2005)



### Kinesthetic

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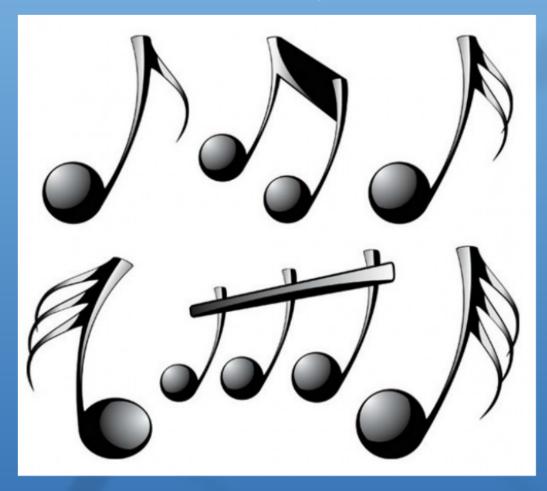
# Linguistic

- Highly developed auditory skills and think in words
- Listening and processing instructions
- Verbal and visual cues
- Giving feedback





#### Musical/Rhythmic



- \* Uses sound and rhythm
- \* Patterns and structure



# Conclusion Dance addresses the WHOLE person

DANCE IS UNIQUELY EFFECTIVE







Physical Emotional Cognitive



#### References

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