

# **MUSIC IS MOVEMENT**

## **Developmental aspects of Movement Representation of Musical Activities of Preschool Children in a Dutch Music Education Setting**

*José Retra*

University of Exeter

School of Education and Lifelong learning

Dutch Foundation for Toddlers & Music

### **ABSTRACT**

Within the Dutch early childhood music education setting, presently a study is being carried out, to understand the movement responses of the children to musical stimuli within an interpretative paradigm. At the moment of the construction of this paper the data of the main study are being analysed. Therefore this paper will provide an introduction and provisional understandings.

### **INTRODUCTION**

Movement is an inherent part of Dutch early childhood music education lessons and was until recently taken for granted [20]. The reason for this might be found in “an almost entirely ‘disembodied’ approach” [2] in the psychology of music and “the prevailing view that early childhood music-making represents a period of intense motor activity with little mindful engagement” [25].

The ontology of the body-mind split - the Cartesian duality [4] - caused researchers in the past to denote bodily movement of young children as meaningless and mechanical. This body-mind split is what Juntunen and Westerlund [10] call “disembodiment of experience in relation to knowledge in western culture”.

The notion of “mindless, mechanical musical activity” [25] has its roots in the predominantly Piagetian approach much researchers in the past and the near present have taken, in which the deficiencies in logical reasoning of young children were emphasised and “static states not transformations” [17] were represented.

The consequences from this disembodied view have according to Young [26] resulted in a “widespread ‘laissez faire’ approach to young children’s play in music areas where practitioners believe that exploration requires no adult interaction or intervention” [26]. “Exploration carries within it implicit beliefs of an unthinking randomness – at worst, a low-level activity akin to ‘messing about’ “[26]. Also many conclusions about young children’s musical capabilities were, and often still are, based on adult criteria for music making.

In 1985 Sims [18] concluded that “activities requiring young children to match a beat with body movement may be inappropriate”, because the children in her research could not match or had difficulty matching their movements to a prescribed beat. Almost a decade later Shiobaba [19] concluded that: “The children who see to benefit most from movement to music activity in school are younger primary school children [...] 7 to 8 year olds” [19].

Some time later movement responses to music of preschool children have been researched in the context of free musical play - unguided or un-stimulated movement reactions ([5], [9], [25]) to uncover the natural movements children make spontaneously without any strict adult criteria in the research design. Results indicate that children make intuitively purposeful movement responses to music without encouragement. Building on these findings it is important to investigate the possibility of learning through movement to music, of gaining new knowledge, new representations to further musical learning, guided by adult interaction but without adult music making criteria.

In the research literature children are gradually transforming from passive learners to intentional humans who are with body and mind actively taking part in the construction of their own knowledge and skills. Therefore making intentional movements to music by children under the age of four is a recent notion, because this implies an active mental engagement and the inseparability of the body and the mind.

### **THE INVESTIGATION**

What former research has shown is the extended surroundings of different aspects that influence the music making of young children, uncovering the need for a new epistemology in early childhood research: the embodied view. Important aspects are the notion of the competent child [26] and child driven criteria. Research based on tasks derived from adult based research will diminish the capabilities children are able to demonstrate.

The present investigation attempts to take an embodied view in order to establish movement responses of young children to a musical stimulus as an important

form of kinaesthetic representation through which children come to understand and memorise different aspects of music. Therefore the present study - situated in a specific cultural context: Dutch Preschool Music Education - will also explore the multi-dimensional conditions needed to present the children with an environment in which they can participate in musical movement and consequently benefit from this.

An important question is: how do young children express the music in movements if music itself is symbolic and ambiguous? The relation between music and movement according to Young and Glover [27] is inseparable: "We physically sense the movement in music and 'hear' the music silently by movement. The qualities of timing, rhythmic patterning, phrasing and intensity are shared by both". Movements then become "aural counterparts" [24] in which all aspects of sound: tone quality, duration, intensity, sounds and silences and timbre, can be experienced through the tension of muscles and energy input of the gestures [11], [24].

Laszlo and Bairstow tell us that "all overt behaviour is expressed through movement" (in [12]). Consequently Macintyre and McVitty pose the question: "How are we to know if children have learned if they don't move?". Byrnes tells us that knowing a skill is the same as having created a representation of that skill: "The primary evidence that the person has specific knowledge is that the individual can evoke the relevant representation when cued in some way"[1]. Movement can be regarded as an indicator for learning. The way in which children make musical movements externalizes their musical representations. Development of movement responses to a musical stimulus would therefore incorporate the development of musical representation.

Duffy acknowledges representation as an important topic in early childhood education: "Children use their representations to explore, to solve problems, to think about and create new meanings" [6].

Children can make movement responses to music because they possess a form of temporal representation [14]. "The ability to process time-related information and the ability to structure his or her own action within time (that is, the capacity to act at the 'right time') are essential to the development of the infant's motor skills, perceptual and cognitive abilities, capacity to learn languages, and, finally, development of his or her affective behaviour" [14]. Considering that children possess this quality, we can say that representation of musical movement also implies the regulation of action in time, "synchronizing a motor action to an external rhythm" [14], which is a crucial aspect of musical timing.

Because the children are presented with examples of movements in PME courses, through "kinaesthetic empathy- physical identification with the movements one observes being executed" [13], the children can internalize the music. Sacks describes kinaesthesia as 'position-sense' of the body "that continuous but unconscious sensory flow from the movable parts of our body (muscles, tendons, joints), by

which their position and tone and motion is continually monitored and adjusted, but in a way which is hidden from us because it is automatic and unconscious" [16].

Movements can be regarded as symbolic actions: the internal sensation of external sound production through movement. If musical stimuli are incorporated in the representational process, it is possible to consider musical movement an actual visible response. Considering that in their musical representations in the Preschool Music Education (PME) environment the children will need to interact with this environment, musical representation involves more than hearing it only in the head.

Preschool Music Education is an educational setting in which the children are presented with multiple sensory information. The lessons can be regarded as personal musical incidents or events in the lives of young children. The children will have to find their way in understanding the PME environment and at the same time act upon the PME environment. PME's events are new at a certain moment but by repeating the events over a period of time, familiarity (habituation) and therefore participation occurs because the children should be able to retrieve the events from memory in interaction with the reinforcement - the presentation of the movements by the teacher - of incoming musical information. "For it is the dimension of time which makes music elusive and fleeting. Yet time takes on a form of reality through bodily movement; we sense it though our muscular system, we see it visually in space, and the progression of our bodies though space gives time an actuality. Through movement we can capture music and come to know its structure and its meaning by embodying it, by enacting it, actually or by our imaging of physical movements" [23].

## METHODOLOGY

The use of movements in PME by its nature implies a progressive situation. Movements take place in space and time and a movement itself is advancement in space and time. This is in accordance with music itself which is an art form unfolding in space and time. A piece of music develops over a certain amount of time. Therefore the development of representation of music through movement responses over time is the issue of this investigation.

Investigating the musical movement behaviour of young children asks for a 'real world' situation, in which they can act freely and spontaneously. A laboratory setting would take away the normal educational situation in which children musically function. This setting provides naturalistic research possibilities: meaning that in a child secure and child natural environment, their movement behaviour can be studied. PME provides in this case the ideal situation, because of its child-centred structure and well-underpinned didactics. The choice for case studies in this investigation is underpinned by Yin: "The case study method allows investigators to retain the holistic and meaningful characteristics of real-life events" [22].

### **Pilot study**

An informal pilot study was conducted to see if the children would be distracted by the video camera and how to work with a camera within this specific setting. The camera did not distract the children. Another objective was to investigate if the parents/caretakers would be willing and have the time to keep a musical diary of their child. Parents were most willing because they also saw it as a personal musical diary of the child's development. The pilot started with a set of questions for the diary, which have been refined for the preliminary because the information was very rich and had to be structured.

### **Preliminary study**

This study was conducted to construct a defined set of musical stimuli – a set of 6 songs and a set of 8 songs with specific activities for two different age groups -, and to assess the parent diaries. An activity in PME is a song plus movement often supported by a toy or musical equipment. The resulting typology became the basis of the sets of activities, which were used in the main study. This was achieved through two different ways of data collection: video-recordings and parent diaries with a predefined set of questions. There were 4 participants: two girls – 26 months and 28 months of age – and two adults.

Next to the analysis of the researcher herself, an independent observer with 18 years of experience in Music on the Lap courses was asked to assess the video-recordings independently in order to have a second expert view to develop the typology of movements

### **Main study**

The main study consisted out of 5 case studies; one case study for each of the two age groups of the children – 18 to 24 months, 24 to 36 months – divided over 5 music courses. Three courses had 8 lessons, one course 7 lessons and one course 4 lessons. Because of ethical considerations the course of 4 lessons was left out of the analysis.

The movement responses of the children were captured for analysis by two digital Sony consumer cameras: one on a tripod and one handheld. The tapes were transported to DVD and chapters were created to facilitate the analysis.

The activities were chosen from the regular repertoire from the PME courses. There is 17 years of experience with this material, and teachers in the Dutch PME community know the appropriate activities for each age group. Of the activity conditions, as described in the preliminary study, the tempi of the sets of activities were prescribed in an advisory way. A combination of the results of Loong (in [8]) and Eerola, Luck and Toiviainen [7] for children's personal tempi was used as a guideline to arrive at the advisory tempi.

Based on the preliminary study the aim was to offer to each group: two rhythmical activities, one with and one without objects (toys or musical equipment); two gestural activities, one with and one without objects; two sequential activities one with and one without objects; two timing activities one with and one without objects. In the main study it was envisioned to study the influence of objects in these four activity categories on movement representation.

One activity of each prescribed duo was presented in each lesson. So each activity would be presented 4 times over a course of 8 lessons. Resulting in 4 prescribed activities for each lesson. The teachers were free to choose the surrounding activities for each group in order to create a full lesson.

Although the activity categorization was verified by the external observer and found legitimate, apparently not all categories had songs suited for an object component. This resulted in a set of 6 songs instead of 8 for the second group aged 24 to 36 months. The data collection of the main study was also supported by: parent diaries, parent group interviews and a field notebook.

### **PROVISIONAL UNDERSTANDINGS**

The analysis of the preliminary study generated a framework for the movement responses of the children: movement types and functions as well as conditions for the bringing about of movement reactions to music. Conditions for making movements proved to be an important aspect within the pedagogical design of PME lessons. In order to stimulate musical learning, the evoking of movement through which the children can grasp the musical information is subject to several conditions, which are interconnected.

The activity categories:

- Rhythmic activity: the aim is to align body movements with the tempo of the music, there is a contact surface
- Sequential activity: the aim is the order of more than one movement
- Timing activity: the aim is to anticipate one special movement (in the song) for it to be on time.
- Gestural activity: the whole or parts of the body are involved. The articulation of the body follows the lyrics of a song, there is no contact surface

It was seen that in the PME environment the understanding of the lyrics as well as the concepts presented in the lyrics and the objects used, are of great importance to evoke movement responses from the children, which might then function as kinaesthetic analogs [3] of musical elements. The level of motor development during a certain developmental phase should be taken into consideration before choosing the

activity's actions. Most important: the tempi of the songs should be matched to the personal [8] tempi of the children in order for them to feel the beat and promote musical learning. In finding these conditions and prerequisites for movement responses it was seen that children could actually match their movements to a prescribed beat.

When looking at musical representation from the present results of the main study, the matching of movements to the beat, the most basic musical characteristic, is perhaps the most prominently present. Through the use of appropriate objects and a tempo that is adjusted to their personal tempo, it was seen that the children had multiple direct (timed) movement responses. Even the youngest children responded to timing moments very accurately over a certain period of time. The fact that songs and activities were repeated a number of times gave the children the necessary time to learn and understand a song and they were therefore able to respond. Probably due to perceptual processes the response time at first was often delayed: often after or in-between two repetitions of an activity. This was seen mainly in the youngest group.

One activity revealed that the use of objects, toys in this case, should match the musical aims of the activity. Tapping to the beat was a musical learning aim, however, the objects used were too soft and fluffy to provide the children with the envisioned experience: the tapping made no sound. The use of objects can support the development of movement representation if the material is appropriate.

The influence of the teacher on the movement responses of the children appeared to be of major importance. The way how an activity, and if used objects, is presented, the structuring of an activity, the verbal scaffolding [21] and the consequent example of the movements by the teacher allowed the children to understand what was being presented. Slowly but steadily they could build their movement representation and consequently they showed more and more timed (direct) movement responses.

#### ACKNOWLEDGMENTS

I would very much like to thank Dr. Susan Young, Margré van Gestel, Sue Chedzoy, Jacqueline van Herwijnen SFKV and the Dutch Foundation for Toddlers & Music without whom this research project would not have been possible.

#### REFERENCES

- [1] Byrnes, J. P. The nature and Development of Representation: Forging a Synthesis of Competing Approaches. In I. E. Sigel, (Ed), *Development of mental representation. Theories and Applications* (pp. 273-293). Lawrence Erlbaum Associates, Publishers, London, 1999.
- [2] Clarke, E. F., & Davidson, J.W. "The body in music as mediator between knowledge and action", in W. Thomas (Ed.), *Composition, Reception: Studies in the Creative Process in Music* (pp. 74-92). Oxford University Press, Oxford, 1998.
- [3] Cohen, V. *Explorations of kinaesthetic analogues*. Unpublished paper. Rubin Academy of Music and Dance, Jerusalem, 1994.
- [4] Crotty, M. *The Foundations of Social Research*. Sage Publications Ltd, London, 2003.
- [5] Chen-Hafteck, L. "Music and Movement from Zero to three: a window to children's musicality", Proceedings of the ECME 2004 conference: The Musical Worlds of Children, Barcelona, Spain, 2004.
- [6] Duffy, B. *Supporting Creativity and Imagination in the Early Years*. Open University Press, Buckingham, 1998.
- [7] Eerola, T., Luck, G., & Toivainen, P. "An investigation of pre-schoolers' corporeal synchronization with music", Proceedings of the 9th International Conference on Music perception & Cognition, Bologna, Italy, 2006.
- [8] Flohr, J. *The Musical Lives of Young Children*. Pearson Prentice Hall, New Jersey (US), 2005.
- [9] Goral-Turel, T. (1999). *Spontaneous Movement Responses of Young Children to Musical Stimulation as indicator of the hidden Cognitive Process*. Unpublished paper presented at the conference Cognitive processes of Children engaged in Musical Activity. School of Music, University of Illinois at Champaign-Urbana, IL, 1999
- [10] Juntunen, M., & Westerlund, H. "Digging Dalcroze, or, Dissolving the Mind-Body Dualism: philosophical and practical remarks on the musical body in action", *Music Education Research*, Vol. 3, No. 2, pp. 203-214, 2001.
- [11] Kemp, A. "Kinaesthesia in Music and its Implications for Development in Microtechnology". *British Journal of Music Education*, Vol. 7, No. 3, pp. 223-229, 1990.

- [12] Macintyre, C., & McVitty, K. *Movement and Learning in the Early Years*. Paul Chapman Publishing, London, 2004.
- [13] Moore, C., & Yamamoto, K. *Beyond words. Movement Observation and Analysis*. Routledge, London, 1998.
- [14] Pouthas, V. "The development of the perception of time and temporal regulation of action in infants and children", in I. Deliège, I. and J. Sloboda, J., (Eds.), *Musical Beginnings*, (pp.115-141), Oxford University Press, Oxford, 1996.
- [15] Retra, J. "Aspects of Musical Movement Representation in Dutch Early Childhood Music Education", Proceedings of the 9th International Conference on Music perception & Cognition, Bologna, Italy, 2006.
- [16] Sacks, O. *The Man Who Mistook His Wife for a Hat*. Picador, London, 1985
- [17] Siegler, R. S., & Wagner-Alibali, M. *Children's Thinking*. Fourth edition (international edition). Pearson Prentice Hall, New Jersey (US), 2005.
- [18] Sims, W. "Young children's creative movement to music: categories of movement, rhythmic characteristics and reactions to changes", *Contributions to Music Education*, 12, pp. 42-50, 1985.
- [19] Shiobaba, M. *The effects of movement on musical comprehension*. PhD thesis, Classmark SHI, Institute of Education London, 1993.
- [20] Taylor, D. "Physical Movement and Memory for Music", *British Journal of Music Education*, Vol. 6, No. 3, pp. 251-260, 1989.
- [21] Tomasello, M., Striano, T., & Rochat, P. "Do young children use objects as symbols?", *British Journal of Developmental Psychology*, 17, pp. 563-584, 1999.
- [22] Yin, R. K. *Case Study Research. Design and Methods*. Third Edition. Sage Publications Inc., Thousand Oaks (US), 2003.
- [23] Young, S. "Physical Movement: Its place in Music Education", *British Journal of Music Education*, 9, pp. 187-194, 1992.
- [24] Young, S. "Contributions to an Understanding of the Music and Movement Connection", *Early Child Development and Care*, Vol. 155, pp. 1-6, 1996.
- [25] Young, S. "Just making a noise? Reconceptualising the Music-making of Three- and Four- year- olds in a Nursery Context", *Early Childhood Connections: Journal of Music and Movement-based Learning*, 5, (1), pp. 14-22, 1999.
- [26] Young, S. "Time-space structuring in spontaneous play on educational percussion instruments among three- and four-year-olds". *British journal of Music education*, 20, (1), pp. 45-49, 2003.
- [27] Young, S. and Glover, J. *Music in the early years*. Falmer press, London, 1998.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page.

© 2008 University of Roehampton