

The value of joint listening in creating attunement between babies, toddlers, and their kindergarten teachers

dr. Katarina K. Erzar, dr. Katarina Zadnik, dr. Katarina Habe, Saška Rakef Perko

University of Ljubljana (faculty of Theology, Academy of Music), Radio Slovenia (B-AIR)

RADIO PLAYS FOR BABIES AND TODDLERS – ABSTRACT AND INTRODUCTION

Developmental neuroscientists have repeatedly demonstrated and confirmed that listening is the portal to trigger the entire social engagement system and that certain types of music and voice do trigger a sense of safety. Optimal development of the baby's and toddler's brain is only possible in an attuned and safe relationship with the available and attuned caregiver. The goal of the research, conducted as part of the B-AIR international project in cooperation with Radio Slovenia, was to enable teachers to include joint listening of radio plays as a part of their daily kindergarten routine and make it more inspiring and pleasant for children. Carefully created musical radio plays for babies and toddlers were chosen and sent to 34 kindergarten groups of children (aged 1 to 3 years and 4 to 5 years). We explored which radiophonic elements invoke safety and calms the babies and toddlers and which were the key for invoking interest, emotional response, and attention in children. With the results of qualitative research, obtained by triangulation of data (observation, analysis of children's drawings, teacher's feedback), we found that the dynamics, rhythm, and dialogic nature of the fairy tale are vital to maintaining the child's attention, whereas broadly interwoven radiophonic elements effect a deeper sensory experience. Listening to radiophonic works is quite challenging for children, so a safe and properly prepared environment and the presence of an adult is advised. Through this experience teachers found out that listening helps them connect with children and enables better regulation of the group.

Research questions:

- Which sounds contribute to the activation of the social circuit and strengthen the feeling of security?
- What attracts the child's attention without hijacking it?
- How can we strengthen their attachment and mutual contact by listening to babies, toddlers and adults together?



SOUNDS AS A BUILDING BLOCK OF RELATIONSHIP

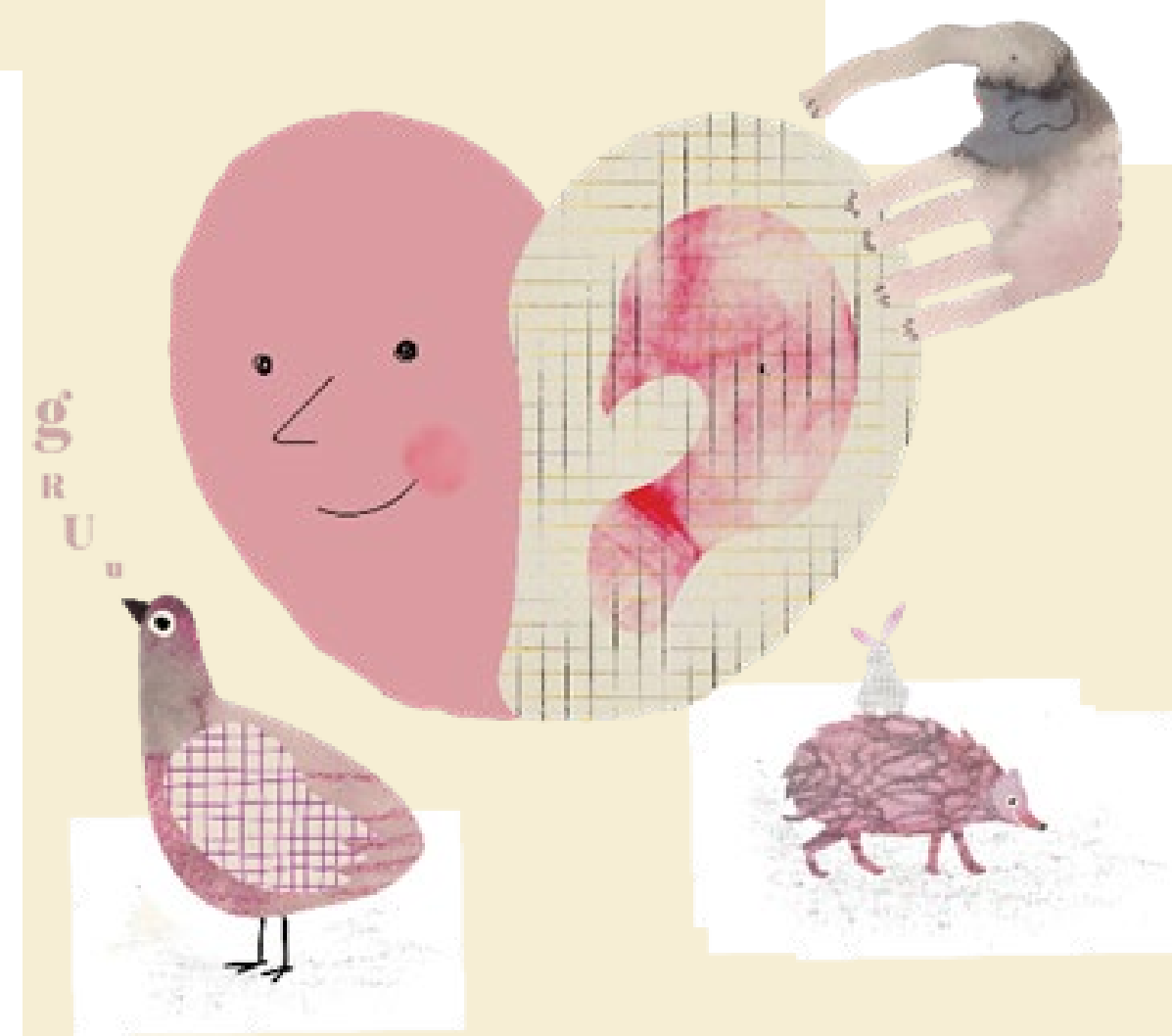
The common feature of early development is innate musicality that is seen in the rich exchange between the infant and caregiver. Musical narratives awaken in a person a polyrhythmic feeling of body movement, a playful sympathy and a sense of connection between two different wills. This connection can awaken any emotion, literally all the emotions that we experience in our life together over time and through our activities together" (Trewarthen, C. (2008). Early connection foster brain development. Contact between a child and an adult caregiver is built through emotional attunement through rhythm, prosody, dialogue and safe environment



Joint listening is an activity that enables two things:
 - a safe interpersonal relationship and within it:
 - a rich environment for the development of the baby's brain on the one hand and the adult's sensitivity on the other.

METHODOLOGY

- 15 Groups of 1 to 3 years and 19 groups of 4 to 5 years old children from 34 kindergartens all over Slovenia was included.
- They choose among 8 radio plays for babies and toddlers, carefully made for this occasion (3 for age 1 to 3 and 4 for age 4 to 6)
- After listening they draw a drawing or made some other art product. The drawings and products were then analyzed by the research team.
- The results of qualitative research, obtained by triangulation of data:
 - observation of children's behavior by the research team
 - analysis of children's drawings and art products
 - teacher's feedback



OBSERVATIONS OF CHILDREN'S RESPONSE

"When listening, the children calmed down and listened with all their attention."

"While listening, the children followed the music, rhythm and content. Some started dancing with their hands, they used different voices. They named the instruments they heard triangle, trumpet, scraper. The music really attracted them, they started whistling. They were also impressed by the accompanying text."

"The children listened very attentively and enjoyed the radio play. After listening, they also knew a lot about her. They eagerly and picturesquely expressed their impressions in drawings."

"Listening to radio plays inspires children to imaginative play and to the development of artistic expression."

"The children said that the 'fairy tales' they listened to were beautiful. Due to the great motivation of the children, we listened to them for the next few days."



2 to 3 years old

KINDERGARDEN TEACHER'S FEEDBACK

"We were impressed with the radio plays. We wish there were more of these radio games suitable for children aged 1 to 3."

"Weekly work or planning/preparation in the department is devoted to the radio play Musical Kitchen. The work is an excellent example of a work of art that enables us in kindergarten to make correlations or cross-curricular integration."

"The children followed the radio play carefully and listened to it, as the sound and text were suitable for the age of the children."

"The radio play enabled us to do various activities through which the children deepened the story and the actual performance of the radio play."

"We decided to carry out the activity several more times."



SELECTION CRITERIA OF RADIO PLAYS FOR BABIES AND TODDLERS

- Sound and voice ranging from 150 to 300 Hz.
- Tuned and balanced structure of the play.
- Presence of sounds from nature.
- Human voice and sounds of real music instruments.
- An emotionally clear story
- The right balance of predictability and surprises,
- The length of the play between 5 and 15 minutes.

Do listeners hear complex pitch for these sounds?	2-4 months	7 months	1 year
Harmonic complex	No	Yes	Yes
Inharmonic complex	No	Yes, but worse for highly inharmonic complexes	Yes, but ambiguous for highly inharmonic complexes
Pure harmonics	No	No	Inconsistent
High-frequency harmonics	No	Yes, but less salient than low frequency harmonics	Yes
"noise"	No	Yes, but much weaker	Yes

EVALUATION METHODS

- Teacher's observation
- Researcher's observation of children's behavior before, during and after listening
- Recording children's behavior in the weeks following the shared listening experience.
- Analysis of the video recordings of joint listening.
- Conversations with teachers, analysis of interviews.
- Analysis of children drawings.



RESULTS AND CONCLUSION

- Children of all age groups listen to radio plays with great pleasure and attention.
- Listening to audio material is challenging for children and they must be specially prepared for this type of activity, provided with a safe environment and contact with an adult.
- The dynamics and rhythm of the radio play, as well as its dialogic nature, are crucial for maintaining the child's attention.
- Radio plays, where individual elements (sound, voice and music) are equally interwoven with each other, leave a much stronger impression on the child's experience.
- It is important that children could also express the listening experience.

References

Cirelli, L., Trehub, S.E. in Trainor, L.J. (2018). Rhythm and melody as social signals for infants. Annual of New York Academy of Sciences, 1–7. New York Academy of Sciences.
 Cuadrado, F., Lopez-Cobo, L., Mateos-Blanco, T. in Tajadura-Jiménez, A. (2020). Arousing the Sound: A Field Study on the Emotional Impact on Children of Arousing Sound Design and 3D Audio Spatialization in an Audio Story. Frontiers in Psychology, 11, 737.
 Custodero, L.A. in Johnson-Green, E. (2008). Caregiving in counterpoint: reciprocal influences in the musical parenting of younger and older infants. Early Child Development and Care, 178(1), 15–39.
 Gabrovec, B. (2011). Glasbene preference predšolskih otrok (Diplomsko delo). Univerza v Mariboru, Pedagoška fakulteta.
 Hargreaves, D. J., North, A. C. in Tarrant, M. (2006). Musical preference and taste in childhood and adolescence. V G. E. McPherson (ur.), The child's musician: A handbook of musical development (str. 135–154). Oxford University Press.
 Kerchner, J. L. (2000). Children's verbal, visual, and kinesthetic responses: Insight into their music listening experience. Bulletin of the Council for Research in Music Education, 31-50.
 Malloch, S. in Trewarthen, C. (ed.). (2009). Communicative Musicality. Oxford University Press.
 Ritterfeld, U., Klimmt, C., Vorderer, P. in Steinhilber, L.K. (2005). The Effects of a Narrative Audiotape on Preschoolers' Entertainment Experience and Attention. Media Psychology, 7(1), 47-72.
 Samuelsson, L., Sheridan, S. in Hansen, M. (2013). Young children's experience of aesthetics in preschool. Tidsskrift for Nordisk Barnehageforskning 6.
 Sims, W. (1985). Young children's creative movement to music: categories of movement, rhythmic characteristics, and reactions to changes. Contributions to Music Education, 12, 42-50
 Valkenburg, P. in Beentje, J.W.J. (1997). Children's Creative Imagination in Response to Radio and Television Stories by Patti M. Valkenburg and Johannes W. J. Beentje