The role of music in the language development of young children: "I wish we could have music everyday"

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Background to the study

Language difficulties or delays

- Vygotsky: language most important sign-using behaviour occurring in children's development (Hill, 2006)

- Increased risk for children from low-SES backgrounds:

    Poor oral language skills (Letts, Edwards, Sinka, Schaefer, & Gibbons, 2013) & language-based memory difficulties (Howard & Melhuish, 2016: Baker et al., 2011)

- Importance of early intervention – what works?

Neuroscience research: Children learning music

- No differences prior to learning music (Schlaug, Norton, Overy & Winner, 2005)

- Brain networks activated in music & language processing (Koelsch, Fritz, Schulze, Alsop & Schlaug, 2005)

- Processing of speech syllables, auditory attention and working memory (Strait, O'Connell, Parbery-Clarke & Kraus, 2014)
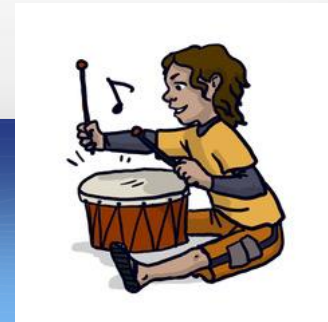
Keeping the beat

- Beat synchronisation abilities & reading readiness (Woodruff Carr, White-Schwoch, Tierney, Strait & Kraus, 2014)

- Potential to identify children at risk of language learning &/or reading difficulties

- Rhythm and beat activities – self-regulation (Williams, 2018)

The 'Tuning In' program

- Investigating the effects of the 'Tuning In' program upon oral language skills

- Music education program of Shoalhaven Youth Orchestra

- Initially focused on music for preschool-aged children

- Incorporates elements of Kodály, Orff and Dalcroze music education approaches (Cameron, 2016)

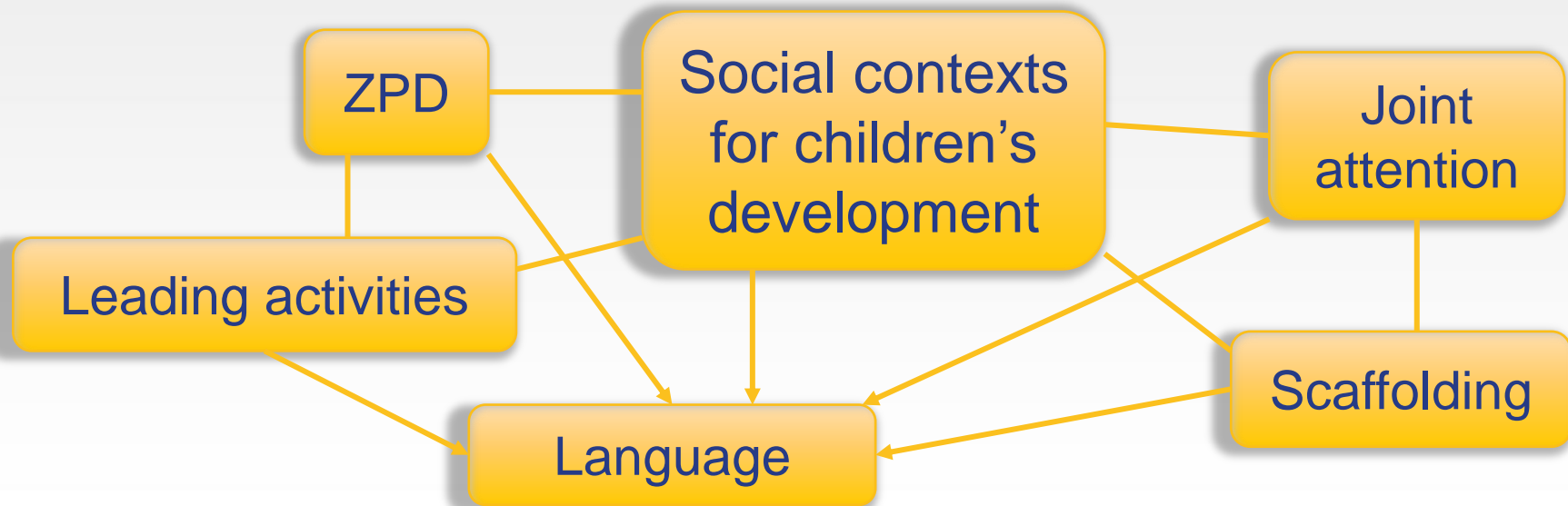- Play-based, draws upon children's natural learning styles

The 'Tuning In' program: Aims

- To develop: beat synchronisation, experience difference between beat & rhythm, pitch awareness & accuracy

- Wide range of music experiences (includes singing, movement, playing instruments, listening, creating) & music styles

- Adults are play participants not bystanders

- Repetition - but not rote

Vygotsky's sociocultural theory
(Bodrova, Geremoth & Leong; Duncan & Tarulli, 2003; Goncu & Gauvain, 2012; John-Steiner & Mahn, 1996; Vygotsky, 1978)

ZPD

Social contexts for children's development

Joint attention

Leading activities

Language

Scaffolding

What we wanted to find out

- Did the Tuning In (TI) program increase language outcomes for four and five-year-old children compared to a regular ECEC music program?

- Did the children's use of language across the day in the ECEC setting improve, or not, following the TI intervention?

- What were the essential design principles of TI that led to language improvement?
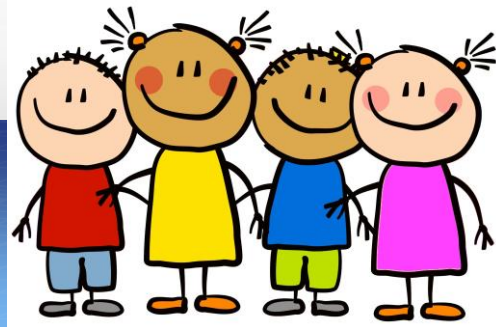
Participants & settings

● 4 community owned (non profit) ECEC centres

Participants

● 47 four & five year-old children attending these centres & their parents

● 3 Educators from two centres (TI centres)

PART A: Quasi-experiment

2 Tuning In centres 23 children	2 RPM centres 22 children
Pre-testing * Parent/Carer survey	
19-20 TI sessions 30 mins/once weekly	Regular music programming
Post-testing*	

*CTOPP-2 (Wagner, Torgesen & Rashotte, 2013) & EYT (Howard & Melhuish, n.d.)

PART B: Multiple Case Study

TI CENTRE 1	TI CENTRE 2
Teacher journal – lesson plans + observations	
Interview with Centre Director & educator	Interview with Centre Director
Parent interview	
Observations of children at play	

Belonging

"A deep sense of love and belonging is an irreducible need of all people. We are biologically, cognitively, physically, and spiritually wired to love, to be loved, and to belong."

Brene Brown, American author (cited in Brainy Quotes, 2018)

Photo (ACECQA, 2014)

Relationships, learning & music

- "…it's the relationship that you need to build with them first; because they need to have the trust in you, they need to have the respect from you, vice versa"

- "I thought, they will *never* take to this"

- "…at first he would *not* even *sniff* music! Who is this? What is this? (Educator Julia*, interview)

- Olivia*: "They don't sit on the mat. They *never* sit on the mat!"

Relationships, learning & music

- "…you've made the effort to be in that playground and to go out and put yourself out there and try and get those relationships with the children" (Educator Julia*, interview)

- Music provided 'frameworks' to support building relationships & "attunement" (Siegel cited in Department of Education, Employment & Workplace Relations [DEEWR], 2009, p.48)

- Teacher is play leader & play participant - shifts between roles

Signs of building relationships

Photo (ACECQA, 2014)

- Hugs, smiles on arrival – excitement about music: "I like music!" (Brody*)

- Seeking to communicate, share interests/successes, joint attention (play)

- Reduction in oppositional behaviour - cooperation – interest in music

- Seeking to participate & be involved – unpacking/packing up

Relationships

1.1 Children feel safe, secure & supported *(build secure attachments with one and then more familiar educators; establish and maintain respectful, trusting relationships with other children and educators; initiate interactions and conversations with trusted educators)* (DEEWR, 2009, p.21)

2.1 Children develop a sense of belonging to groups & communities *(participate in reciprocal relationships)* (p.29)

Importance of routines

- Sessions 'structured yet flexible'

- Structure (routine) of music session – predictable

- Physical 'framework' (circle = inclusivity) supports building warm relationships

- Music has structure – predictable

Importance of routines

● On significant changes occurring in the centre: "The music program sort of softened that a bit …and I think assisted you to create those relationships" (Educator Jenny*, interview)
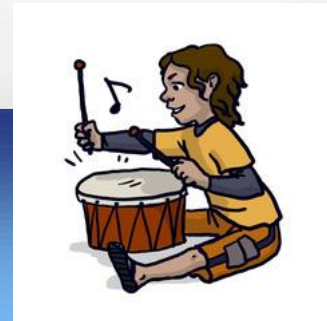
1.1 Children feel safe, secure & supported *(use effective routines to help make predicted transitions smoothly)* (DEEWR, 2009, p.21)

Being

"When you are here and now, sitting totally, not jumping ahead, the miracle has happened. To be in the moment is the miracle."

Osho, Indian Godman (cited in Habits for Wellbeing, 2018)

Children participate in different ways

- Does apparent engagement = significant learning?
- Direct participation in group changed over time
- Children's agency – NQS Element 1.2.3 (ACECQA, 2018)
- Rethinking ideas of participation and learning
- Set up music sessions to *maximise possibility* of direct participation, while providing children with choice
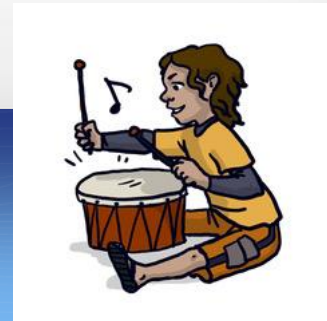
Children participate in different ways

1.1 Children feel safe, secure & supported (DEEWR, 2009, p.21)
1.2 Children develop their emerging autonomy, inter-dependence, resilience & sense of agency (p.22)
1.4 Children learn to interact in relation to others with care, empathy & respect (p.24)
4. Children are confident & involved learners (p.34)
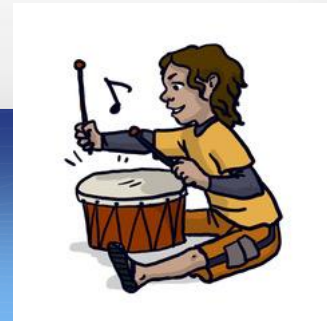
Participation & learning

…as I've seen over time, we've had children that don't directly sit in the group, that sit at the table. They mimic the songs…he started sitting at the tables, playing with his construction, as he likes, but he started singing the songs…then you've seen the last three or four sessions he sort of squeezed his way in there…he just comes in quietly and involves himself.
(Educator Julia*, interview)

Repetition and rehearsal

- Musicians repeat (practice) & rehearse to hone skills (4.1) (DEEWR, 2009, p.37)

- Repetition frequently requested by children: "I wan' anuna one"

- Reminders from children

- Examples of rehearsal: (1) Melissa*, (2) Lachlan* (4.3) (p.39)

Becoming

"Life, is not about a getting and having, it is about a being and a becoming."

Myrna Loy, American actress

(cited in Brainy Quotes, 2018)

Becoming communicators

- Change most noticeable in children with language difficulties
- Centre 1: Changes evident from Week 6
- Centre 2: Changes evident from Week 8

1.1 Children feel safe, secure & supported - *… initiate interactions and conversations with trusted educators* (DEEWR, 2009, p.21)
5.1 *Educators are attuned & respond sensitively & appropriately to children's efforts to communicate…listen & respond to children's approximations of words (p.43)*

Changes

What I saw was that, little layers, coming out of their shells, having consistency, you know, and actually giving them some kind of regular routine a bit. So I don't think that's a complexity, I think that's probably, probably an asset to us really. (Educator Jenny, interview)

"I have seen an incredible change in the children and I think… it's because you've made those strong relationships; not only that they *love* the music" (Educator Julia, interview).

Summing up

PART A Quasi-experiment: CTOPP-2
(Wagner et al., 2013)

- Phonological awareness (elision, blending words & sound matching + PA composite)

- Phonological memory (memory for digits, non word repetition + PM composite)

- Pre-test results aligned with Australian Early Development Census (AEDC) (developmental vulnerability) (AEDC, 2018)

MEAN PERCENTILE RANKINGS
(Cameron, Dixon, Warren & Verenikina, 2018)

	PHON AWARENESS Composite			PHON MEMORY Composite		
	Pre	Post	Change	Pre	Post	Change
RPM	28.72	31.27	+3.00	34.05	58.30	+23.25
TI	21.98	31.74	**+9.76**	14.63	48.09	**+33.46**

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Thank you

Do you have any questions?

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