

COGNITIVE SCIENCES AND HUMAN DEVELOPMENT

Music-based Language Programme for Preschool Teachers' Training and Lesson delivery: A Pilot Trial

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ABSTRACT

Language delay in preschoolers is linked to learning difficulties and persistent communication issues. Studies show that early music-making positively impacts young children's language development. Musicbased Language Programme aims to enhance preschoolers' language skills by training preschool teachers to deliver quality music lessons with language-focused objectives. This pilot trial aimed to determine the feasibility of teacher training for the programme's delivery. Furthermore, the secondary aim was to evaluate the acceptability of the programme's implementation by stakeholders. Methods: The 6-week one-arm pilot trial took place in Sarawak, Malaysia (October to November 2021). It included preschool visits, parent briefings, teacher training, and music lesson delivery. The participants included teachers (n = 4), preschoolers (n = 11), parents (n = 11), and the principal (n = 1) in a preschool that practiced inclusion. A non-probability-purposive sampling recruitment strategy was employed amid the COVID-19 pandemic. The study used a case study mixed methods approach to collect data through reports, observations, group discussions, feedback, questionnaires, and documentation. Results: There was a high rate of participant retention (100%) and completion of data collection tasks (91–100%). Additionally, there was a favourable shift (7–27%) in three teachers' self-efficacy ratings before and after the teacher training and a reasonably high implementation fidelity (87%). There were no adverse events related to the study participants. Conclusion: The study demonstrated promising results across multiple participant levels, as it was perceived to be feasible, acceptable, and appropriate by teachers, preschoolers, the principal, and parents. The findings provided direct implications for the progression of the pilot trial to the full-scale main study.

Keywords: language delay, music-based language programme, teacher training, preschool, pilot trial

ARTICLE INFO

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https://doi.org/10.33736/jcshd.5876.2023

e-ISSN: 2550-1623

Manuscript received: 20 July 2023; Accepted: 14 September 2023; Date of publication: 30 September 2023

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1 INTRODUCTION

1.1 Background

Language delay in early childhood is a prevalent condition worldwide (Law et al., 2017; Saeed et al., 2018; Sices & Augustyn, 2023; Wake et al., 2012). Preschoolers with language delays are more likely to develop language-based learning disabilities, which have detrimental long-term implications for schooling, health, and well-being (Feldman, 2019; Law et al., 2015; Soifer, 2011; Wake et al., 2015). These challenges may, in turn, impose a financial, health, and mental well-being burden on individuals, families, communities, and the nation (Langbecker et al., 2020; Livingston et al., 2018).

Music and language development are strongly linked and have been the subject of extensive academic research (Bernstein, 1976; Brandt, 2019; Jackendoff, 2009; Patel, 2012; Politimou et al., 2019; Sloboda, 1989). There is growing evidence that early involvement in active music-making positively impacts young children's language development. These impacts are evidenced in aural perception and language skills (Anvari et al., 2002; Bonacina et al., 2021; Dege & Schwarzer, 2011; Habibi et al., 2016; Kraus & Strait, 2015; Moreno et al., 2011; Moreno et al., 2015; Patel, 2011; Williams et al., 2015), and specifically language learning in children with language delay (Brayfindley, 2001; Groß et al., 2010; Knight et al., 2016; Lederer, 2018; Pitts, 2016; Pitt, 2019; Seeman, 2008; Weiss, 2009).

Patel's OPERA hypothesis (2011) provides an explanation on why music-making would benefit language in speech sound encoding. According to the OPERA hypothesis, the benefits of music-making are driven by adaptive plasticity in speech-processing networks, which occurs when five conditions are met. The five conditions are Overlap (in the brain networks that process an acoustic feature used in both music and language); Precision (music places higher demands on these shared networks than language); Emotions (music-making elicits strong positive emotions); Repetition (musical activities are frequently repeated); and Attention (a focus that is associated with music-making). This theoretical stance has major repercussions for integrating music into child language development.

Previous preschool music-based interventions have produced positive effects on measures of phonology and vocabulary development but were delivered by external music experts (Habibi et al., 2022; Moreno et al., 2011; Moreno et al., 2015) or researchers (Patscheke et al., 2016; Patscheke et al., 2019), which may have resulted in short-term and less sustainable effects. An effective and potentially more sustainable method may be provided through teacher training, upskilling, and improving the resources accessible to preschool teachers (Bolduc et al., 2021; Ibbotson & See, 2021; Hoffman et al., 2019; Lorenzo et al., 2014).

In the present study, the teacher-led Music-Based Language Programme (MBLP[©]) is a newly developed, eclectic early childhood music approach to enhance preschoolers' language skills through music-making. Specifically, it is for preschoolers with language delays or at risk for language difficulties, not due to the secondary characteristics of other neurological developmental