

**MUSIC, IMAGES AND MOVEMENT IN CHILDREN'S
MULTIMODAL KNOWLEDGE BOOKS: TCHAIKOVSKY'S
BALLET IN THE STORY ORCHESTRA SERIES**

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Abstract: This article investigates how sound-enhanced multimodal picture books introduce children to classical music through the integrated use of text, image and embedded audio. Focusing on three titles from *The Story Orchestra* series, *Swan Lake*, *The Nutcracker* and *Sleeping Beauty*, it explores how these books mediate Tchaikovsky's ballets for young readers, encouraging simultaneous engagement with narrative, visual and auditory elements. Drawing on multimodality theory and research in children's non-fiction, the analysis demonstrates that sound functions not merely as an accompaniment but as a central interpretive resource, shaping children's understanding of musical structure, emotional nuance and narrative pacing. Illustrations and text work together with musical excerpts to support comprehension of plot dynamics, musical expression and movement. The study also examines the pedagogical and experiential potential of these books, illustrating how sound-enhanced knowledge picture books can foster musical literacy, imaginative engagement and cognitive development. The findings suggest that such books offer a compelling model for integrating cultural education, aesthetic experience and multimodal literacy in children's literature.

Keywords: multimodality, children's non-fiction, music education, picturebooks, Tchaikovsky, sound books, visual narrative

1.Introduction

Music has consistently been recognised as a critical element of children's cognitive, emotional, and cultural development. Research in music education and developmental psychology demonstrates that

musical engagement from early childhood can significantly enhance attention, memory, emotional regulation, and social skills (Hallam, 2010; Dobrota, 2022). Simultaneously, children's literature, particularly the picturebook, has evolved into a complex multimodal form, integrating visual, verbal, and material resources to construct meaning. Within this context, children's knowledge picturebooks focused on music occupy a distinctive position: they aim not only to inform but also to facilitate experiential encounters with an art form that is inherently temporal and auditory.

Despite longstanding scholarly interest in the interplay between music and literature (Brown, 1970; Scher, 2004), relatively little research has focused on sound-enhanced knowledge picturebooks as a specific category of children's non-fiction. Existing studies largely concentrate either on narrative picturebooks or on digital multimedia texts, leaving printed books with embedded sound under-theorised. Yet these hybrid artefacts raise important questions about the ways in which musical knowledge is designed, mediated, and experienced by young readers.

This article addresses this gap by examining three sound books from *The Story Orchestra* series, all dedicated to Tchaikovsky's ballets. Rather than providing exhaustive plot retellings, the study adopts a comparative thematic approach grounded in multimodal theory. The central research question investigates how text, image, sound, and representations of movement interact to construct meaning in children's music-related non-fiction and how these interactions support both aesthetic enjoyment and cognitive development.

2. Multimodality and Contemporary Children's Non-Fiction

Children's non-fiction has undergone a significant transformation over the past two decades. No longer defined solely by expository prose and didactic intent, contemporary information picturebooks increasingly incorporate narrative structures, visual storytelling, and aesthetic design (Papadatos, 2017; Joy & Jarman, 2018). Scholars argue that such books should be understood as multimodal ensembles, in which meaning emerges from the orchestration of multiple semiotic resources rather than from written language alone (Kress, 2010).

Within multimodal theory, modes such as writing, image, colour, layout, gesture, and sound are socially shaped resources with distinct meaning-making potentials (Kress & van Leeuwen, 2021). In picturebooks, illustrations function as interpretive partners to verbal text, capable of extending, amplifying, or reconfiguring meaning (Nodelman, 1988). When sound is added to this ensemble, the semiotic

landscape expands, introducing temporality, rhythm, and affect as integral dimensions of interpretation.

Children's sound books occupy a liminal space between print and multimedia. Unlike fully digital texts, they retain the materiality and reading practices of the codex while incorporating auditory elements that invite embodied interaction. Research indicates that multimodal configurations support comprehension and recall when meaningfully integrated and aligned with the narrative or informational goals of the text (Verhallen, et al. 2006; Lewalter, 2003). Conversely, poorly integrated enhancements risk cognitive overload or distraction, undermining both aesthetic experience and learning.

In music-related knowledge books, sound assumes a particularly complex role, functioning simultaneously as an object of knowledge, an aesthetic experience, and a narrative guide. Understanding how these roles intersect requires an analytical approach that attends not only to content but also to design, sequencing, and reader engagement.

3. General Features of *The Story Orchestra* Books

Each book in the series follows a consistent design logic. Cover art functions as a paratextual threshold (Genette, 1997), inviting engagement while shaping expectations. Bold colors and detailed illustrations establish mood and hint at musical content. Within the book, narrative text is presented in soft colored frames along the margins, allowing illustrations to dominate visual attention. Central motifs of movement and dance are emphasised, with dancers, animals, and scenic elements depicted in dynamic poses that visually animate the accompanying music. Sound buttons are consistently positioned, linking images directly to musical excerpts and reinforcing the interplay of sound, text, and illustration. Musical terminology, introduced via glossaries, supports children's conceptual understanding while maintaining narrative flow.

4. Analysis of Individual Books

The Nutcracker

The Nutcracker narrates Clara's dream journey from the Christmas party to the Land of Sweets. Musical excerpts punctuate key narrative moments, from the festive opening to the climactic battle with mice and the diverse dances in the kingdom of sweets. Music functions not merely as accompaniment but as an active narrative partner: brisk tempos and bright timbres accompany excitement and movement, while lyrical passages underscore introspective moments.

Illustrations emphasise motion and expression, often showing characters mid-dance, with gestures echoing musical rhythms. The palace interior, snowy landscapes, and confectionary kingdom are depicted in rich visual detail, sustaining attention and imagination. Sound buttons, strategically placed near salient visual elements, encourage children to associate musical cues with imagery, fostering layered understanding and aesthetic appreciation. Repeated exposure to these multimodal cues supports intuitive learning of musical patterns, narrative dynamics, and expressive gestures.

Swan Lake

Swan Lake depicts Prince Siegfried's encounter with Odette and the emotional complexities of love, transformation, and conflict. Musical excerpts, particularly woodwinds and harp, highlight grace and intimacy, while brass and percussion underscore tension during confrontational scenes. Illustrations of swans in motion, reflections on water, and expressive gestures guide children's interpretation of musical textures and narrative pacing. The interplay of light and shadow mirrors shifts in musical dynamics, reinforcing emotional contrasts and narrative tension.

The book's multimodal design encourages children to perceive relationships between auditory and visual elements, enabling them to interpret narrative meaning through coordinated sensory input. The alignment of movement in illustration with musical rhythm fosters embodied understanding, allowing children to connect sound and gesture in meaningful ways.

Sleeping Beauty

In *Sleeping Beauty*, illustrations communicate grandeur, menace, and eventual celebration in close alignment with the music. Darker tones and dramatic passages accompany conflict, while lighter colors and melodic themes signify benevolence and joy. Sound excerpts, associated with visual cues such as the approach of the Lilac Fairy or the wedding feast, allow children to perceive how musical elements shape narrative tone.

The design emphasizes contrast and resolution, with illustrations capturing spatial dynamics of ballrooms, gardens, and magical forests, while musical excerpts punctuate narrative transitions. Glossaries and brief musical explanations support conceptual understanding, enabling children to relate musical motifs to narrative events and artistic gestures.

5. Corpus and Methodological Orientation

The analysed corpus includes three large-format picturebooks from *The Story Orchestra: The Nutcracker, Swan Lake, and Sleeping Beauty*. Published by Frances Lincoln Limited and translated into Greek by Patakis Publishers, the books share a consistent format: each double-page spread combines concise narrative text, detailed illustration, and a sound button that plays the corresponding ballet excerpt.

Paratextual elements reinforce the books' status as children's knowledge resources. Brief biographical notes introduce Tchaikovsky, while glossaries explain musical terms such as orchestra, rhythm, and waltz. The final page, displaying all sound buttons together, encourages readers to revisit music independently.

Methodologically, the study adopts a comparative thematic approach across four analytical axes: multimodal design and information architecture; sound as narrative and interpretive resource; visualisation of musical movement; and the relationship between aesthetic immersion and knowledge construction. This framework foregrounds design strategies and meaning-making processes rather than plot, providing insights into how children engage with complex cultural content through multimodal resources.

6. Multimodal Design and Information Architecture

Across the three titles, multimodal coherence is achieved through carefully orchestrated design strategies that balance visual, verbal, and auditory elements. The large format and expansive double-page spreads prioritise visual immersion, allowing children to experience the illustrations almost as performative spaces where narrative and musical events unfold. Textual segments, framed along the margins or at the bottom of the page, maintain clarity while leaving the central visual field free for dynamic representations of movement and emotion. By visually subordinating text to illustration, the design encourages children to first engage perceptually and emotionally with images and music before processing verbal information.

From an informational perspective, knowledge is distributed across multiple semiotic layers. Narrative text introduces characters, plot, and context, while illustrations provide emotional, spatial, and kinetic cues. Sound excerpts function as immediate access points to musical content, bridging conceptual knowledge and sensory experience. This layered structure aligns with contemporary theories of multimodal literacy, which emphasise the integration of multiple modes to support comprehension and meaning making (Serafini, 2014). Readers are encouraged to navigate content non-linearly, attending to elements of

interest while making connections across modes, an approach that mirrors authentic processes of musical perception and interpretation.

Paratextual elements play a central mediating role in orienting young readers. Following Genette's (1997) framework, covers, glossaries, and explanatory notes function as interpretive thresholds that shape expectations and guide engagement. In *The Story Orchestra* series, these features contextualise the books as knowledge texts while maintaining an invitation to imaginative exploration, signaling that learning and aesthetic pleasure can coexist. By orchestrating design, text, image, and sound, the series constructs a coherent multimodal environment in which children can explore complex cultural content in a structured yet playful manner.

7. Sound as Narrative and Interpretive Resource

Sound is the defining feature of the series, operating as both narrative and interpretive resource. Musical excerpts are selected to mirror plot progression and emotional tone, reinforcing narrative cues while inviting affective engagement. The books avoid explicit technical explanations; instead, children infer meaning through repeated associations between auditory, visual, and textual elements. Fast rhythms, high-pitched tones, and bright instrumentation correspond to moments of action, tension, or excitement, while slower tempos, legato phrasing, and softer timbres signal intimacy, reflection, or calm. This careful alignment enables readers to develop an intuitive understanding of how music communicates affect and narrative nuance.

The integration of sound aligns with multimodal literacy theory, which emphasises the synergistic function of multiple semiotic systems (Barthes, 1977; Kress, 2010). In these books, music does not merely illustrate images; it interacts with verbal and visual cues to guide interpretation, allowing children to perceive and anticipate narrative and emotional trajectories. Over time, repeated exposure to these patterns supports the development of early musical literacy, helping children recognise motifs, structural cues, and expressive devices while simultaneously reinforcing narrative comprehension.

Additionally, the books foreground the temporal dimension of music. Children experience sound as unfolding in time, paralleling the temporal progression of the story. This synchronicity between auditory and visual-temporal cues fosters a sense of rhythm, pacing, and dramatic tension, allowing young readers to perceive both the abstract structure and expressive content of musical works.

8. Visualising Musical Movement

Movement constitutes a crucial bridge between music and image in the series. Illustrations translate auditory rhythm and flow into visual form through compositional devices such as diagonal lines, repeated figures, swirling shapes, and gesture-based postures. These visual cues convey both the speed and intensity of music, inviting children to “see” rhythm and motion and to internalise the embodied qualities of dance. Colour, line density, and spatial arrangement further signal changes in energy, mood, and dramatic tension, offering a rich palette of interpretive possibilities.

In *The Nutcracker*, circular formations, symmetrical positioning, and lively gestures visually echo playful, dance-like musical passages. *Swan Lake* uses flowing, elongated lines and reflective water surfaces to suggest lyrical elegance, while angular, tense poses align with climactic conflict. *Sleeping Beauty* employs contrast between light-filled celebratory scenes and shadowed moments of tension, aligning visual and auditory cues to reinforce narrative arcs.

By representing movement visually, these picturebooks support embodied learning and kinesthetic engagement. Children can physically mimic gestures, sway with rhythm, or imagine themselves within the scene, fostering an integrated sensory experience that bridges perception, cognition, and emotion. Such strategies align with research indicating that visualisation of motion can enhance comprehension and recall in children (Sun, Loh & Roberts, 2019), particularly in the context of musical learning.

9. Pedagogical and Experiential Applications

The Story Orchestra books offer rich opportunities for experiential learning that extend beyond passive reading. Listening to musical excerpts while observing illustrations encourages active auditory engagement, promoting attention, memory, and imaginative processing. Children may visualise scenes with their eyes closed, enact movements suggested by illustrations, or compose narratives inspired by music, creating a deeply interactive and personalised learning experience.

Educational practitioners can leverage these multimodal affordances in structured or open-ended activities. Matching games linking sound buttons to specific illustrations, discussions comparing emotional tone across music and image, and creative tasks such as dramatisation or storytelling allow children to integrate cognitive, affective, and kinaesthetic skills. Such practices illustrate how multimodal texts can foster both aesthetic sensitivity and conceptual

understanding, demonstrating that knowledge acquisition need not compromise enjoyment.

The interactive and repeatable nature of these books encourages iterative engagement, enabling children to explore, anticipate, and interpret musical and narrative patterns autonomously. Repeated exposure reinforces pattern recognition, sequencing, and memory, supporting foundational skills relevant to literacy, music education, and cognitive development. The series thus exemplifies how children's literature can function simultaneously as a site for cultural immersion, skill-building, and imaginative play.

10. Conclusions

The analysis of *The Story Orchestra* series highlights the remarkable potential of sound-enhanced multimodal picturebooks to mediate children's engagement with classical music and narrative art forms. These books demonstrate that auditory elements, far from being supplementary, operate as central interpretive tools, guiding comprehension, emotional response, and aesthetic appreciation. The integrated coordination of musical excerpts, visual imagery, and textual narrative creates a holistic sensory environment in which children can simultaneously develop cognitive, affective, and imaginative faculties.

Illustrations meticulously aligned with musical rhythm and dynamic contrast enable readers to perceive motion, narrative tension, and expressive nuance, fostering an embodied understanding of musical structure and storytelling. Paratextual features, including glossaries, composer biographies, and explanatory notes, scaffold conceptual understanding, supporting children in connecting musical motifs with narrative events and enhancing their grasp of musical literacy fundamentals. The interactive and repeatable design of these books encourages iterative engagement, reinforcing pattern recognition, memory, attention, and interpretive reasoning.

Pedagogically, these picturebooks offer opportunities for experiential learning: children can listen attentively, observe visual cues, and enact gestures or dance movements inspired by illustrations, internalising musical and narrative elements in a personalised, meaningful way. Such engagement promotes aesthetic sensitivity, cultural literacy, and early music appreciation, illustrating how multimodal resources can bridge artistic exposure and conceptual learning.

Furthermore, the series demonstrates that children are capable of sophisticated interpretive activity when provided with carefully designed multimodal resources. By orchestrating auditory, visual, and

textual modes, these books provide a model for integrating imaginative engagement, cognitive development, and cultural education. They underscore the importance of intentional multimodal design in fostering sustained interest in complex cultural content, opening avenues for further research into learning outcomes, reader interaction, and the pedagogical potential of immersive multimodal texts in early childhood education.

Ultimately, sound-enhanced knowledge picturebooks exemplify how children's literature can transcend the traditional boundaries of reading to offer multisensory, intellectually stimulating, and culturally rich experiences, cultivating both the appreciation of classical music and the capacity for critical, embodied interpretation.

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ΜΟΥΣΙΚΗ, ΕΙΚΟΝΑ ΚΑΙ ΚΙΝΗΣΗ ΣΤΑ ΜΠΑΛΕΤΑ ΤΟΥ ΤΣΑΪΚΟΦΣΚΙ: ΠΟΛΥΤΡΟΠΙΚΑ ΒΙΒΛΙΑ ΓΝΩΣΕΩΝ ΓΙΑ ΠΑΙΔΙΑ

Τα πολυτροπικά βιβλία γνώσεων με ήχο παρέχουν στα παιδιά μια εμπυθιστική μαθησιακή εμπειρία που συνδυάζει κείμενο, εικόνα και μουσική, διευκολύνοντας την κατανόηση αφηγηματικών δομών, μουσικών στοιχείων και αισθητικής. Η σειρά *The Story Orchestra* ενσωματώνει ηχητικά αποσπάσματα σε πλούσιες εικονογραφήσεις και κείμενο για να εισάγει τους μικρούς αναγνώστες στα μπαλέτα του Τσαϊκόφσκι, ενώ παράλληλα ενισχύει την ανάπτυξη της μουσικής γνώσης, της φαντασίας και της συγκινησιακής αντίληψης. Η μελέτη δείχνει ότι η ενσωμάτωση μουσικού ήχου με εικόνες και η αφήγηση υποστηρίζει την ολιστική εμπλοκή των παιδιών, συνδυάζοντας μάθηση και απόλαυση και προσφέροντας νέες προοπτικές για την εκπαίδευση και την παιδική λογοτεχνία.

Λέξεις-κλειδιά: πολυτροπικότητα, παιδική λογοτεχνία μη μυθοπλαστικού χαρακτήρα, μουσική εκπαίδευση, εικονογραφημένα βιβλία, Τσαϊκόφσκι, βιβλία με ενσωματωμένο ήχο, οπτική αφήγηση