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# Exploring the Impact of Multimodal Learning on Literacy and Social-Emotional Development in Early Childhood

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## Abstract

This study examines the impact of multimodal learning on literacy and social-emotional development in early childhood education, specifically for children aged birth to 8 years. Multimodal learning employs visual, auditory, and kinesthetic methods to create engaging and effective educational experiences. Research indicates that multimodal learning supports literacy development by improving phonemic awareness, reading comprehension, and vocabulary acquisition through interactive storytelling, digital tools, and play-based activities. Additionally, multimodal learning plays a crucial role in fostering social-emotional skills by promoting self-regulation, empathy, and collaboration. Grounded in Vygotsky's social constructivist theory, this approach fosters collaboration and learning within social contexts. The study identifies effective strategies, including play-based learning, storytelling, music, dance, art, and digital tools, that enhance both literacy and social-emotional development. However, challenges exist, including the balance between traditional and digital learning approaches and concerns over screen time. Findings suggest that multimodal learning creates engaging and supportive environments, allowing children to interact with content in diverse ways, improving comprehension and social skills. This research contributes to early childhood education by highlighting how multimodal approaches enhance learning experiences and promote holistic child development, ensuring inclusive and meaningful educational practices for all learners. Ultimately, this research offers valuable insights for educators, policymakers, and researchers aiming to create holistic, inclusive, and effective practices in early childhood education.

**Keywords:** Multimodality, Literacy development, Social emotional development, Multimodality learning, Early years Education.



## Introduction

This research aims to explore the impact of multimodal learning on literacy and social-emotional development in early childhood. Multimodal learning involves learners accessing and processing new knowledge through multiple channels of communication, not limited to written text, to support deeper learning (Mellgren & Gustafsson, 2011). In early years settings, this approach allows children to engage with content using visual, auditory, gestural, and digital modes, aligning closely with how young children naturally learn and express themselves. Multimodality plays a key role in communication and should be incorporated into the teaching and learning process, as it reflects how communication is practiced in diverse ways (Brandao & Theodotou, 2020). Moreover, Deklerk (2020) highlights that multimodality offers various ways to express and demonstrate literacy skills and comprehension. It enables students to take on the role of an expert in their own learning, fostering environments that encourage collaboration and shared learning.

Although multimodal learning has been increasingly explored in early childhood education, with contributions from scholars such as Bock (2016), Dini (2022), Furu, Kaihovirta, and Ekholm (2021), and Lee et al. (2022), there remain significant gaps in understanding its full impact on both literacy and social-emotional development. Much of the existing research tends to emphasise one developmental area over the other, lacking an integrated approach that captures how multimodal strategies influence these domains simultaneously. This research paper seeks to address this gap by identifying and analysing how multimodal learning can holistically support young children's literacy and social-emotional skills, thereby offering insights into more comprehensive and inclusive educational practices.

Deklerk (2020) emphasises that Multimodality offers the chance to position students as experts in their own learning and helps foster collaborative learning environments. However, challenges may arise, such as disagreements related to device usage in the classroom and negative social interactions. Further research is necessary to strengthen the connection between multimodality and early childhood education (Osae & Papadopoulos, 2024; Papadopoulos, 2020, 2021; Papadopoulos & Bisiri, 2020; Papadopoulos & Shin, 2021).

My personal motivation for researching multimodal learning stems from observing its impact on my 1-year-old child's literacy development. First-hand experiences with these strategies have inspired me to explore their broader significance. Building on insights gained from the Level 5 ED5084 module, I recognise the importance of integrating visual, auditory, and kinesthetic approaches to address diverse learning styles in early childhood. Research highlights that the early years are foundational for long-term success, making it vital to examine how multimodal strategies support literacy and social-emotional development effectively.

Multimodality refers to a concept of communication that integrates multiple modes—such as written, visual elements, gestures, and tactile (Yelland et al., 2008). This approach is crucial in early childhood education (0-8 years) as it enhances communication by incorporating both verbal and nonverbal expressions. Multimodal learning fosters engagement, creativity, and deeper understanding, making learning more dynamic and effective. Literacy is the ability to decode, encode, and comprehend text, symbols, and communication, enabling knowledge acquisition, critical thinking, and expression (Larson & Marsh, 2015; Whitehead, 2010). Social-emotional development is a process that focuses on a child's capacity to regulate, understand, and express emotions and interaction (López-Escribano et al., 2021).

This research targets early childhood educators, policymakers, and researchers. Educators can apply multimodal practices to enhance classroom engagement and social-emotional learning. Policymakers may use the findings to inform curriculum design and inclusive strategies. Researchers can build on this work to further explore multimodal learning across diverse educational settings and contexts.

The aim of this research is to explore the impact of multimodal learning on early childhood development, focusing specifically on its effects on literacy and social-emotional development. The study seeks

to identify the role of multimodal learning in fostering these areas and to determine the most effective multimodal strategies for enhancing both literacy and social-emotional development in young children. The key research questions were:

- How does multimodal learning impact the development of literacy in the Early years?
- What is the role of multimodal learning in promoting social-emotional development in early years?
- What specific multimodal strategies are most effective in enhancing both literacy and social-emotional development in early years?

To minimise bias, the study will conduct a peer-reviewed systematic approach by carrying out a case-focused analysis on relevant and quality literature from different sources. This means that it will possibly create a more balanced research approach that will enable the researcher to come up with more objective findings on the research topic.

## Method for the Literature Review

The literature review methodology outlines the systematic approach used to identify, analyse, and synthesise relevant scholarly sources. This ensures a comprehensive understanding of existing research and highlights gaps that justify further investigation. According to Mukherji and Albon (2018), a literature review is a critical analysis of related literature in a relevant field of research. It evaluates ideas and contributions rather than the quality of writing. Essential to research, it outlines subject content and academic knowledge, ensuring a comprehensive understanding of existing studies in the area. It provides the reader with a comprehensive understanding of what is happening in the area of study, highlighting key findings, gaps, and controversies. A well-structured literature review should flow like a narrative, with a clear beginning, middle, and end (Thomas, 2017). The introduction sets the stage by defining the topic and outlining the main themes. The middle section critically engages with different perspectives, linking arguments and identifying patterns. Finally, the conclusion synthesises key insights, highlighting areas for further research.

A literature review, therefore, is a critical study of the research carried out so far on a given subject area. It pulls out trends, research gaps, and interaction in research work, which form the basis of responding to the research questions. In this study, the literature review analyses the effects of multimodal learning on literacy and social and emotional development, using resources relevant to pre-school education.

The technique used for this literature review was chosen to ensure that the outlined research questions are well addressed. Considering multiple sources, it became meaningful to integrate and develop a holistic proportional perception of the subject matter, referring to multimodal approaches to learning in relation to the further development of literacy and embracing social-emotional domains. This approach is fruitful because it combines numerous studies and theoretical models to provide a complex view of the issue. The literature review also established areas of deficiency that need further study.

One important advantage of using this method is its ability to give a rich and detailed insight into the topic. In turning to the work within this literature review, both theoretical and empirical, the theoretical framing of multimodal learning and how it manifests in early childhood education may be better understood. However, some of the issues include possible bias of the researcher while selecting the sources, as well as variability in the quality of the reviewed research articles. Further, growing disciplines can make prior research less applicable, introducing temporal issues.

To ensure a focused and relevant foundation for my non-empirical research, I took a systematic approach to selecting literature. I began by identifying key concepts and themes related to my research topic, which helped guide the selection of appropriate keywords. These keywords helped focus my research on the intersection of multimodal approaches and their impact on literacy and social-emotional

development, particularly in early childhood education. A variety of academic databases were utilised to identify relevant articles, including the UEL Library search page, Google Scholar, ERIC, JSTOR, and EBSCO. The use of these databases facilitated a more in-depth and comprehensive literature review by providing access to a wide range of scholarly and educational sources.

Key authors in this review include Mellgren, Gustafsson, Kress, van Leeuwen, Jewitt, Batyrbay, Medetkhanova, Flewitt, Dini, and Theodotou. Their work explores how multimodal learning influences literacy and social-emotional development, emphasising the role of non-verbal modes such as touch, movement, and gesture in fostering cognitive and emotional growth. In addition, Vygotsky's social constructivism theory is a central framework in this research, as it underscores the importance of play in early childhood development and highlights its role in enhancing communication, collaboration, and overall learning experiences for young children.

When conducting non-empirical research using journal articles, one main challenge was selecting credible and relevant sources from the vast literature available. With so many articles accessible online, it was overwhelming to identify the most applicable ones for my topic. To address this, I established clear criteria for selection, such as prioritising peer-reviewed articles, checking publication dates for currency, and focusing on reputable academic journals in early childhood education. Additionally, avoiding plagiarism while incorporating others' ideas was challenging. I ensured proper citations using the correct referencing style and paraphrased information in my own words. These strategies helped me navigate the complexities of non-empirical research and produce a well-informed piece grounded in academic literature. When I initially started my search for journals, I found it difficult to locate enough relevant sources. The results did not quite match my research focus, which was frustrating. To overcome this, I decided to change my keywords for more specific searches, which improved the results. I also explored various academic websites and databases beyond the ones I usually used.

To manage my dissertation records effectively, I developed a systematic approach to organise data and references. I created a thematic table to categorise key concepts and findings, which helped identify patterns. I maintained separate files for each section for easy access and to prevent data loss. To ensure security, I backed up my files on cloud storage and an external hard drive. For references, I compiled citations in a document and kept detailed notes for easy retrieval. I used Zotero to collect and annotate articles, sorting them by themes, which streamlined my workflow and kept my research organised throughout the process.

To support a critical reading of the literature, I applied several key strategies throughout my research process. I began by skimming and scanning articles to quickly determine their relevance, focusing on abstracts, conclusions, and section headings. Once a source was deemed relevant, I engaged in active reading by highlighting important points and making annotations to better understand and interact with the material. I also questioned the text critically, examining the main arguments, the evidence provided, and any potential biases or assumptions. First, I considered alternative viewpoints by examining different opinions and findings that challenged key points, helping to provide a well-rounded perspective. I evaluated all findings and evidence to ensure that the studies used were valid, reliable, and directly supported the research question. I synthesised information by combining various perspectives and findings to develop a more comprehensive understanding of the topic.

Before conducting the literature review, I believed that multimodal learning primarily helped children's literacy and social-emotional development in early childhood education. I assumed it was mostly effective in these areas. However, after reading numerous journals, I realised that multimodal learning supports holistic development. It benefits not only literacy and social-emotional growth but also cognitive, motor, and creative skills, fostering overall development in young children and preparing them for a wide range of life experiences.

As I worked through my literature review, I encountered several limitations that made me reflect on the process and the approach I adopted. One of the biggest challenges was the availability and ac-

cessibility of sources. Despite using multiple databases and adjusting my keywords, there were times when I struggled to find enough relevant or up-to-date literature. Time constraints posed another challenge. Ideally, a thorough literature review requires more time to read widely, reflect deeply, and synthesize ideas properly. Because of deadlines, I had to be selective with what I read, which sometimes meant skipping over potentially valuable sources. This limited how comprehensive and detailed my review could be.

## Reflection

Writing this dissertation has been a challenging yet deeply rewarding experience. Throughout the process, I have developed critical thinking skills, refined my ability to synthesise complex ideas, and learned the importance of structuring arguments coherently. I have gained a deeper understanding of my research topic, allowing me to engage with theories and literature in a more analytical and reflective manner. I have grown more confident in my ability to articulate my ideas clearly and critically evaluate academic literature. I have learned that early childhood education benefits greatly from integrating different sensory and interactive learning experiences, allowing children to develop stronger language and communication skills. I have learned that when children engage in storytelling, dance, drama, and collaborative activities, they not only enhance their comprehension and expressive abilities but also develop empathy, self-regulation, and interpersonal skills.

## Literature Review

The connection between multimodal learning, literacy development, and social emotional development in early childhood education has been realised more in recent past. With each succeeding paradigm in education, the value of using more than one sensory mode for a particular lesson, especially visual, auditory, touch and feel or motion has been observed as a way of enhancing the learning and emotional development of young children. The following is the breakdown of the literature review with regards to these key elements in response to the research questions presented in this thesis: Drawing on the analysis of the theoretical premises, seminal works, and controversies in the literature, this review is to contribute conceptual clarity about how the use of multimodal learning approaches beneficial for literacy and socio-emotional development in the early year's classrooms.

## Research on Multimodality

Mellgren and Gustafsson (2011) describe multimodality as encompassing various forms of expression beyond traditional text, highlighting its broad and dynamic nature in communication. Representation and communication rely on multiple modes to convey meaning. Kress and van Leeuwen (2001) further note that modes of communication adapt to societal needs, leading to the creation of new modes and the transformation of existing ones. Multimodal frameworks offer tools for analysing texts and interactions, enabling researchers to uncover patterns and meanings (Kress & van Leeuwen, 2001). In education, these frameworks inform teaching strategies by emphasising the integration of diverse communication modes to support varied learners and improve outcomes (Jewitt, 2009). This includes not only such methods as vision and hearing but also the feeling and touch, which are especially important for the child. Multimodal literacy according to Batyrbay & Medetkhanova (2023) refers to a complex of modes which do not only include words but also images, gestures, sound, touch and movement during the learning process. These modes are created with the intention to reach out all types of learners and to promote many-faceted cognitive and affective/vocational development among students. Rahate et al., (2022), argues that multimodal learning is important based on the

ability to address several learning needs. In the domain of literacy, this approach enables the children perform the main literacy practices in several modes, for instance, listening to the stories, mimicking stories or using graphic displays that go along with sounds.

## Multimodal Learning and Literacy Development

The first research question- 'How does multimodal learning impact the development of literacy in early years?' has been answered several times in the current literature with literature presenting positive effects of multimodal learning on children's literacy. As in the research presented by Dini (2022) literacy is a process through which children learn language and early reading, phonemic awareness, comprehension and writing skill as well as the capacity to convey ideas. According to Flewitt, (2008) multimodal literacy involves the skills children develop to interpret and express meaning through various modes, including spoken, written, visual, and digital forms. It encompasses words, images, sounds, gestures, and other modes, enabling diverse ways of communication and understanding Experience has also demonstrated that values are promoted in these manners by offering children different modes of engaging with text improves their skills. Moritz et al., (2013) emphasizes the development of literacy in early childhood plays a crucial role in shaping children's future literacy achievements in primary school (cited in Theodotou, 2019b).

A closer look at early literacy development shows that multimodal learning improves phonological awareness as listed below. Phonological awareness as demonstrated in Riaño (2024) is the individual's awareness of the phonemes within words and the ability to change the phonemes in a word, blocked letter sounds, skill that is crucial to read and write. Effectiveness of learning context and learning strategies has been supported by the works done by El-Sabagh (2021) where they have made it clear that when young children are supplied with picture or video aside the spoken words, they are easily able to link words to sounds and letters thus enhancing phonemic awareness. In addition, inclusive motor activities like characters news, acting and gesturing to learn which could be associated with reading fluency are also useful when implementing the strategy.

Besides, phonemic awareness, multimodal learning helps children work with words in various ways to comprehend the information received. For instance, multimedia presentations that involve text with pictures or audio can be beneficial when used by children because they work the children's head in a promising way that enables them to learn well than when they only read (Lee et al., 2022). Young learners are able to hear a tale, observe the behaviors of the characters and engage with the media connected to the story, and this makes a richer, more encompassing perspective on the story to be developed. These multiple forms of engagement assist children not only in learning how to decode words, but also the utilisation of the experience as a whole, and therefore is humbler than all the rest.

But the literature also overemphasises some of its inconsistencies and difficulties of implementing multimodal learning in early childhood education. One issue as presented by Qushem et al., (2021), relates to the integration of technology in learning with that of conventional literacy practices. The experience family also oppose the overusing of the digital tools in learning for fear that this could slow down development of bore skills like handwriting, and independent reading. In addition, there is a critical voice that opines that the overemphasis on technology might take the focus away from face-to-face social interactions and other sociocognitive learning activities that are characteristic of more holistic, multimodal learning environments that are at the center of integrated student affairs (Ginting, 2021). The two debates set out the argument in equal measures and warrant further analysis when it comes to use of technology in education, especially at the early stages.

The extent to which late learners benefit from the use of multiple modes is vital, particularly because literacy is the cornerstone of learning and development in the early years. The literature resented by Oladele (2024) points out that using multiple modes of communication such as visual, auditory, tactile, and kinesthetic makes it easier to impact children's literacy because children get different ways

in which they can interact with text. Thus, the ARG synthesises multiple modes of learning, literacy learning in particular, to foster emergent as well as later literacies, such as reading, writing, understanding, reasoning, and creating.

O'Brien et al., (2022), argued that multimodal learning is one of these topics, in particular how it influences the educational learning of phonics as well as phonemic awareness, both important aspects of literacy. Phonemic awareness or the ability to focus on segments of words is very helpful for children that learning to read. For instance, in their study, Kalogris (2024) pointed out that use of the modalities like visual and sound actions facilitates children's phonemic awareness as they are able to map letters, sounds and meanings. For instance, hand clueing or pictorial elaboration to support the use of words or signs enhance the relationship between phonological and visual aspects of emergent literacy. These multisensory approaches prove helpful for students with different learning preferences, including those who are either learning through texts or graphics, the learning disabled, etc.

In addition to phonemic awareness, it appeared that by using multimodal approach can help children to better understand what they read. In adverse, children have the most difficulties when it comes to passing through text since the process entails decoding of the words, comprehension of the meaning in those words as well as relating them to what is already in the knowledge of the particular children Still, teaching approaches that involve the use of multimedia texts with graphics, audio, and written language have been found to promote children's understanding by appealing to more than one sense and cognitive channel, (Neumann et al., 2024) . For example, when children can accompany an illustrative picture with the sound, with other sounds they might hear and read the text in parallel, they are more likely to build and sort out the narrative easier with the existing prior knowledge regarding the story.

Multimodal learning is one of the aspects that help expand the child's vocabulary because words are introduced in many ways. This is in contrast to learning a word by just hearing it or seeing it on a card, the children can interact with a new word through movement, sound and picture. According to Hansen and Broekhuizen, (2020), children quickly expand their vocabulary in the early years, and that early experiences play a crucial role in this development. Early vocabulary skills are a strong predictor of future reading abilities and academic achievement, highlighting the importance of early language development. Therefore, Hansen (2024) emphasised that multimodal learning resources enhance vocabulary acquisition by combining text, images, audio, and interactive elements. These tools engage multiple senses, helping learners better understand and remember new words. Seeing, hearing, and using words in context deepens comprehension, while interactive activities boost engagement and retention, making vocabulary learning more effective and enjoyable.

Exposure to new words in a variety of modes—spoken, written, visual, and interactive—helps children develop a broader vocabulary. Engaging in activities like role-playing, story enactments, and digital interactions reinforces new words in context, which enhances children's ability to use them in conversations and writing. Narey (2017) emphasises the role of visually rich digital and media-based texts in fostering early literacy. Multimodal learning supports children's meaning-making, creativity, and visual language development, preparing them for 21st-century challenges. However, many adults maintain a verb centric perspective, overlooking the importance of children's image-making in literacy development. This disconnect raises social justice concerns, highlighting the need for inclusive educational practices that embrace multimodal perspectives to support diverse learners effectively (Narey, 2017).

Multimodal communication channels, such as audio, video, text chat, and images, enhance interaction and accessibility in learning environments (Tseng, 2015). Information and Communication Technology (ICT) is an approach to multimodal learning. ICT provides various modes for communication and learning (Tseng, 2015). Furthermore, Deklerk (2020) highlights that digital technology is a crucial mode of multimodal learning that enhances children's literacy development. Through interactive apps, digital recording devices, and storytelling tools, children engage in play-based literacy experiences that foster creativity and collaboration. Wohlwend (2015) observed that children used digital tools to

create complex narratives, manipulate digital puppets, and develop storytelling skills (cited in Deklerk, 2020). Digital apps allow young learners to produce and share their own stories, strengthening their literacy skills in engaging ways. Technology-based literacy activities encourage cooperation, communication, and critical thinking, making learning more meaningful and interactive for early childhood education. However, Palaiologou (2014) warns the increasing exposure of children under five to digital technologies and its potential disadvantages. The study highlights concern that excessive screen time may hinder social interactions, traditional play, and overall development. While digital tools offer learning opportunities, they can also reduce hands-on experiences crucial for cognitive and emotional growth. The research suggests a balanced approach, integrating technology mindfully in early years education to support rather than replace traditional learning methods (Palaiologou, 2014). Thus, a balanced approach is necessary, ensuring that technology complements rather than replaces traditional learning methods in early childhood education.

The relationship between multimodal learning and literacy development is the main concern of this study, together with the effects on overall cognition as stated by Cowan & Flewitt (2023). Simultaneous with the increase in the use of multiple modalities to support young learners' learning, the empirical evidence reveals the beneficial effects of learning environments organised through multiple channels, for example, visual, auditory, touch/feeling-kinaesthetic for managing cognitive flexibility and improving children's skills for handling the information coming through different channels.

Multimodal learning and literacy development, as explored in Eiserman and Blatter's (2014) study, emphasises the use of diverse modes of expression—such as speaking, writing, drawing, and digital imaging—to enhance children's understanding. Through collaborative inquiry, children engage in constructing knowledge and sharing meaning via multiple literacies, including visual, kinesthetic, and affective. This approach acknowledges various cultural backgrounds and communication forms, allowing children from different environments to contribute meaningfully. Eiserman and Blatter (2014) found that multimodal strategies, like storyboarding, enriched comprehension, deepened content understanding, and provided an inclusive, interactive learning experience beyond traditional language-based literacy.

For example, if children listen to the story, watch the pictures and perform certain actions connected with the story, they have to use several kinds of input for the memory and concentration. More specifically, the key concept underlying the present attempt to combine verbal and picture information is Undheim (2022) dual coding theory, which holds that people encode verbal and visual information through two distinct channels that can be combined to facilitate the development of improved and longer lasting knowledge structures. This is true, and Multimodal learning builds on this by presenting the content through different modes, hence increasing learning retention and comprehension. Research has indicated that the use of multimodal learning experiences provides for better learning performance than children who are not exposed to such learning facilities especially in memory tasks and problem solving as stated by Guru et al., (2022). This means that it's indeed possible to embrace a multiple text approach with an understanding that the approach fosters literacy besides improving the general intellect of children.

## Multimodality learning and social emotional development

The second research question—"What is the role of multimodal learning in promoting social-emotional development in early years?"—has been addressed in several studies, with research indicating that multimodal learning plays a beneficial role in fostering young children's social-emotional development. Social-emotional development as contemplated by Martikainen et al., 2024, simply means the measure of competence a child demonstrates in managing interpersonal relationships and regulating emotions while making appropriate choices. In the initial stage, it is shaped by both the social relationships and emotional experiences that should require the learning-teaching methods that respect and stimulate

the child's emotional regulation and interpersonal orientation. Saleha, Baharun, and Trimelia Utami (2022) emphasised that socio-emotional development begins in infancy, shaping behaviours and habits formed since the womb. Experts highlight its significance from birth to six years. This is a very important developmental area during the early childhood since children work out complex issues to do with feelings and relationships. They have claimed that the multimodal learning can make a considerable effect in this development process by offering the chances of the emotional release, self-control, and empathy. Emotional development is the growth of a child's ability to recognise, express, and regulate emotions appropriately, enhancing their well-being and social interactions with others (Neaum, 2019). Integrating multimodal strategies can significantly enhance children's ability to understand and manage their emotions, build relationships, and develop social skills in a more engaging and effective manner.

Aden and Theodotou (2019) highlighted the importance of incorporating multimodal learning and communication in early years classrooms. This approach allows children to express themselves using a variety of verbal and nonverbal communication methods. Furthermore, multimodal learning significantly contributes to children's social-emotional development by fostering diverse ways of interaction and understanding, ultimately supporting their ability to connect, empathise, and communicate effectively with others in meaningful ways.

The role of multimodality in learning and social-emotional development is crucial, as it highlights the various ways children communicate and engage with their environment. While multimodal approaches facilitate rich, dynamic classroom interactions (Jewitt, 2006; cited in Efthymiaou & Kington, 2017), it is important to recognise the potential for these modes to either support or hinder social-emotional development. For instance, when children with special educational needs (SEN) are physically segregated, the use of different modes of communication might unintentionally reinforce social isolation, affecting their emotional growth and sense of belonging (Kress & Van Leeuwen, 2001). However, multimodal interactions also offer opportunities for inclusive communication, allowing children to express themselves through gestures, writing, or images, fostering emotional expression and social connection (Ivarsson et al., 2009; cited in Efthymiaou & Kington, 2017). Thus, while multimodality can enrich learning experiences, its impact on social-emotional development depends on how inclusivity and social interactions are structured within the classroom. This highlights the need for thoughtful consideration in applying multimodal strategies.

Wustmann Seiler et al., (2022), argued that multimodal learning can enhance social emotional development because children can learn with several stimuli, which have an ability to elicit emotions. For instance, the learning through narratives with storytelling, music images, drama, can elicit different feelings and help the children develop sense of emotional communication regarding content and people. Another great example of multimodal approach that focuses on getting rid of self-regulatory demands is play-based learning as play learning includes both social component and motor activity.

For example, educators can use visual aids like picture books or videos to introduce social-emotional concepts such as empathy or sharing. Auditory activities, like storytelling or role-playing, can help children practice communication skills and recognise emotional cues in others. Kinesthetic learning can be incorporated through activities such as group games or dramatic play, allowing children to physically act out emotions and social scenarios (Berk, 2013). Additionally, interpersonal strategies like peer interactions, group discussions, or collaborative activities encourage children to express themselves and practice social-emotional skills in real-life contexts. According to Vygotsky's (1978) socio-constructivist theory, learners advance through social collaboration with their teachers and peers (Hatzigianni et al., 2020). These interactions provide opportunities for children to engage in the Zone of Proximal Development—the space between their current developmental level and the potential level of development they can reach with adult guidance or support from more capable peers (Hatzigianni et al., 2020). By working together with others, children can navigate challenges they might not be able to solve alone, fostering both cognitive and social-emotional growth. As Vygotsky suggests, this collaborative learning

process is crucial for children to acquire new skills and expand their abilities, not only intellectually but also socially, as they learn to communicate, empathies, and cooperate with others.

Through interactive learning environments, children encounter scenarios that require them to manage their emotions. For instance, multimodal learning tools like music, movement, or digital applications can be used to teach strategies for calming down, problem-solving, and dealing with frustration in social situations. Rajan and Aker (2020) highlight dance as a multimodal activity that significantly contributes to children's social-emotional development. By integrating various modes of learning and expression, including physical movement, music, and social interaction, dance enhances children's ability to express emotions, collaborate with peers, and develop self-regulation skills. Theodotou (2025) emphasizes that when there are language barriers caused by age or bilingualism, dance can be a powerful tool for communication. This is because it enables expression without the need to follow a particular structure, providing chances for communication through multiple modes.

Another advantage of the multimodal learning to support children as indicated by Grieshaber et al., (2021), is that most of them affect children emotionally through their senses. For instance, the ability to perform an entire script, as well as the acting out of either a voice message or a message in writing, lets children practice in the crucial area of verbal and nonverbal emotional understanding in a safe setting. These activities not only engage children's emotions but also help children use self-regulation when it comes to feelings of the characters in a story. Dramatic play fosters emotional intelligence by allowing children to observe and express feelings, enabling them to understand their own and others' emotions through multimodal learning.

Furthermore, play-based learning which stems as a unique multimodal paradigm, is contributed to the enhancement of social-emotional well-being. As Vygotsky (1978) highlighted in his sociocultural development, children's play is one of the ways of emotional and social development. Children learn cooperation, sharing and conflict solving during the play thus enhancing on values like empathy, cooperation and conflict solving skills. Lay out lets children mimic other roles and personalities, which is healthy because it helps students deal with feelings in a group setting. Somewhat more complex, play-based Multimodal communication includes role-playing, not only allowing children to engage emotionally with peers, while developing complex cognitive and language skills at the same time (Kewalramani & Veresov, 2022).

Bock (2016) emphasises the role of multimodal learning in children's meaning-making, highlighting how activities such as drawing, writing, and imaginative play allow young learners to express emotions, develop creativity, and enhance social-emotional skills. Also, Zakaria, Yunus, and Mohamed (2021) investigated the influence of drawing on preschoolers' socio-emotional development. Their study identified drawing as a crucial medium for children to express feelings, communicate experiences, and build emotional intelligence. A key strength of their research was the qualitative approach, which included semi-structured interviews with preschool teachers, providing in-depth insights into children's emotional expression through art. They argued that drawing serves as a nonverbal tool that helps children regulate emotions, develop empathy, and improve peer interactions. Data analysis verified their claims, demonstrating that engaging in visual expression significantly enhances children's emotional regulation and social skills. For children struggling with socio-emotional challenges, drawing can provide an opportunity to create an imaginative context where they can reassess their identity and reduce the likelihood of making mistakes in social or academic situations (Zakaria, Yunus, and Mohamed, 2021). These findings support Bock's (2016) argument that multimodal learning—especially through visual and imaginative expressions—plays a fundamental role in shaping early social-emotional competencies. Both studies suggest that incorporating drawing and other creative activities into early childhood education fosters a supportive environment for self-expression and emotional development. Therefore, integrating multimodal approaches in classrooms can provide children with diverse ways to communicate, enhancing both cognitive and emotional development.

Humphries et al. (2023) highlight the critical role of multimodal learning in social-emotional development for deaf newborns and young children. By integrating sign language with other sensory and communicative modalities, children develop stronger emotional connections and cognitive skills. This multimodal approach fosters early language acquisition, enhancing social interactions and overall well-being. The authors emphasise that recognising and supporting multimodal learning benefits both families and medical professionals in promoting healthy development (Humphries et al. 2023). The article offers valuable insights, but further research is needed on the long-term effects of early sign language exposure on cognitive and social development. Examining the effectiveness of combining sign language with spoken language could optimise communication strategies. Additionally, exploring family dynamics and cultural factors in multimodal learning could lead to more personalised interventions for diverse communities. Addressing these areas would enhance strategies for promoting the healthy development of deaf children.

Additionally, Reggio Emilia approach supports education that is play based and incorporates multiple aspects of the child's personality, and learning through all the senses fosters an emotional and social development. Brandao and Theodotou (2020) explain that the Reggio Emilia approach emphasises children's right to communicate through various modes, such as gestures, drawing, dance, and music, allowing them to express thoughts and emotions freely. By providing a creative, flexible environment with access to materials like art and movement, this approach fosters emotional and social development. These elements are closely connected to multimodality, as they utilise various modes that allow children to openly express their thoughts and ideas through different forms of communication. Kaiser (2023) state that the Reggio Emilia approach is helpful to children's emotional and social growth because students are free to search for feelings through artwork. For instance, art helps children vent their feelings and learn social-emotional skills. This focus on expression and creativity helps children to develop interpersonal relatedness, as they are able to tell cases of other people/personal experiences with an opportunity of demonstrating emotions using different modes. Moreover, The Reggio Emilia approach fundamentally challenges the traditional role of educators by focusing not on teaching specific content, but rather on understanding the intricacies of how children learn (Brandao and Theodotou 2020). Rinaldi (2004b) emphasises that teachers in Reggio Emilia settings are not mere transmitters of knowledge; they are co-constructors of knowledge, fostering a collaborative relationship between children, educators, and the wider educational community (cited in Brandao and Theodotou,2020). This aligns with Vygotsky's (1978) social constructivist theory, which highlights the importance of social interaction in the learning process.

However, Kiviranta et al., (2024), criticised it by pointing out that although adopting multimodal approach may increase the affective domain, much focus must be placed on socio-cultural learning contexts within which children grow. Vygotsky opined that emotions and social relations cannot be explained systematically without regard to the patience context which includes family and culture. For instance, in multimodal learning, children from different ethnic backgrounds may have different emotional states, or the child maybe experiencing different types of emotions that may not be well catered for under the different learning strategies. Further, although the multimodal learning provides and other forms of learning multiple avenues for expression and modulation of feeling, it does not mean that a child will grow up with the adequate amount of SES. Such strategies should be applied to fit the requirements of different students with consideration made to students' emotions and social status (Miller, 2021).

## Multimodal Strategies for Literacy and Social-Emotional Development

The third research question— "What specific multimodal strategies are most effective in enhancing both literacy and social-emotional development in early years?"—has been examined in various studies, with existing literature identifying several effective strategies that support both literacy and social-emotional growth in young children. An effective multimodal strategy for literacy development

involves the integration of diverse semiotic systems such as spoken, written, visual, audio, gestural, and spatial texts. According to Sihombing, Herman, and Saputra (2022), multimodal learning tools, including picture books, posters, and digital content like movies and videos, help make learning more engaging and accessible. This approach encourages students to interact with texts in multiple ways, enhancing their literacy skills. Aslan et al., (2022), argued that play-based learning is undoubtedly one of the most accepted multimodal approaches in early childhood education. That's why, as it was defined in the beginning of the present work, play is a proper type of the multimodal learning that has physical, social, and emotional involvement. While at play children engage in object and peer transactions by means of verbal and nonverbal communication. This is because the kind of activities in the learning process, including storytelling, role play and pretend play foster both literacy and social-emotional development. For example, in narratives, children can perform or create a scene, and gestures along with language words to describe and explain the actions of characters as well as how they feel.

Effective strategy in multimodal learning for literacy development is presenting objects to inspire socio-dramatic play, which allows children to explore and express ideas through role-playing. Teachers can also talk about familiar topics, encourage children to draw their experiences, retell stories with the practitioner acting as a scribe, and support children in attempting to write (Charles & Boyle, 2014). These strategies provide opportunities for children to engage in literacy activities through multiple modes of communication, fostering creativity and language skills. Moreover, Vygotsky (1978) noted that as children draw and scribble, they often incorporate gestures and dramatisation to convey actions, demonstrating an early form of symbolic communication (Taylor and Leung, 2019). He suggested that gestures serve as a foundational visual sign that eventually evolves into writing. This idea aligns with multimodal strategies for literacy development, where socio-dramatic play, drawing, storytelling, and guided writing support children in expressing ideas through various modes, enhancing both creativity and language skills.

Another strategy the parents can embrace is the use of multimedia especially the RDF or interactive digital books or apps that contain text as well as audio provision and graphics. It has been found most of these tools can increase children's interest in books and assist in improving comprehension abilities. For instance, picture storybooks where children may press buttons on the page to listen to sounds or watch animations give the second dimension of context both to reading and emotions (Furu et al., 2021). These tools enable children to interact with narratives to a large extent as they can associate different aspects of the tales or events which they are told using their sensory skills.

An effective multimodal learning strategy in early childhood education is music and movement. Integrating songs and dance into lessons not only makes learning enjoyable but also enhances memory retention and understanding. For instance, incorporating rhythm and melody can aid in grasping mathematical concepts or language patterns. This approach caters to auditory and kinesthetic learners, promoting active engagement. Theodotou (2025) highlighted that dance offers opportunities for self-expression in multimodal ways, promotes emotional development, and can enhance creativity. Moreover, group activities involving music and movement foster social skills, such as cooperation and turn-taking, while also supporting physical development. By embracing this strategy, educators create a dynamic and inclusive learning environment that addresses multiple developmental domains.

The next of the applied strategies, storytelling, maps the use of verbal language with visual and acoustic semiotics, appealing to the intuitive emotional plane in children while in parallel active in the process of establishing literacy. Especially when using pictures or videos, storytelling can educate all types of learning styles and elicit people's empathy. It also enhances social emotions as the child is able to relate with characters, to learn on different feelings and emotion and hence prepare children for school. Fundelius et al. (2023) state that storybook reading in inclusive preschool classrooms is essential for developing emergent literacy skills, including print awareness, phonological skills, and alphabet knowledge. Utilising multimodal strategies such as visual supports, interactive storytelling, and adaptive materials

enhances engagement and comprehension for diverse learners. Incorporating gestures, props, and digital tools fosters meaningful participation, supporting both language and social-emotional development. Ensuring accessibility through differentiated instruction helps remove learning barriers, promoting academic success for all children, including those with extensive support needs.

Furthermore, the content rich in touches, sounds and other movements can be more interesting to children; it is also possible to read engaging feelings in connections with elements of study materials. Another use of the sensory, like turn taking through interactive books, a tangible experience, or a muscle rhyme, has been linked to better language in the following, because they permit children to bond motoric movements to language (Huot et al., 2022). These activities also meet social-emotional needs for children in regard to the regulation and expression of emotions.

Art is an incredibly powerful tool in early childhood education, offering a unique and engaging way to foster both literacy and social-emotional development. Encouraging children to express ideas and emotions through drawing, painting, or digital art tools can enhance their literacy by helping them understand symbols and storytelling structures. It also supports emotional development by providing an outlet for self-expression. According to Theodotou (2019b, 2019c), child-led art projects and the Play and Learn through the Arts (PLA) programme play a significant role in supporting literacy development while also enhancing children's social and personal skills. Art provides a safe space for young children to express and process their emotions. A child might draw a picture of something that makes them happy, sad, or frustrated, which can help them externalise their emotions. This act of expression allows children to explore their feelings in a constructive and non-verbal way. Additionally, when children are encouraged to reflect on their art, they learn how to talk about their emotions, improving both their emotional literacy and social skills. This process promotes emotional regulation by providing a channel for children to understand and manage their feelings, which is crucial in early childhood development.

However, other early years activities that are not directly related to multimodal learning also play a crucial role in children's development. These activities contribute to an effective learning process that enhances students' achievements in literacy and social-emotional domains. The use of substances like clay, sand, or water, for instance, supports learning by engaging children's senses in a unique pedagogical manner. This sensory engagement stimulates brain activity and fosters positive emotions. For example, sensory inputs can help children develop fine motor skills, which are essential for writing, while also serving as a therapeutic outlet for expressing emotions (Nielsen & Yeo, 2022).

## Conclusion

To sum up, the literature review highlights that multimodal learning significantly enhances literacy and social-emotional development through diverse strategies such as play-based learning, storytelling, role-playing, and digital tools. Additionally, dance, music, and art support creativity, emotional expression, and communication, while the Reggio Emilia approach encourages child-led exploration through multiple modes of learning. ICT-based learning further enhances engagement with interactive digital tools. Grounded in Vygotsky's Social Constructivist Theory, these strategies promote empathy, collaboration, and deeper learning. However, successful implementation requires teacher training and balanced integration of digital and traditional methods to support diverse learners effectively.

## Ethical considerations

Ethics as «the moral philosophy or set of moral principles underpinning a project» (Aubrey et al. 2000: Cited in Albon and Mukherj, 2018, 109p). In research, ethics encompass moral values, standards of conduct, respect, behavior, and attitudes throughout data collection. It involves distinguishing between right and wrong and is essential for protecting participants, research environments, and researchers. Upholding

ethical standards is key to producing high-quality research, as it ensures integrity, fairness, and respect (Clark et al., 2019; Cohen et al., 2018; Rolfe & Mac Naughton, 2010).

When conducting a literature review for this study, one of the major ethical questions that I encountered was how to accurately report on the findings of another research. I focused on proper citation to avoid misrepresenting their work and to uphold ethical standards. I handled data securely, respected the integrity of original sources, and ensured that the journals I used were based on studies with proper ethical approval. I ensured that the empirical research journals I used were based on studies with proper ethical approval. This was crucial for verifying the credibility of the data. For example, the study by Hatzigianni et al. (2020) received ethical approval from the University's Human Research Ethics Committee and the New South Wales Department of Education State Education Research Approvals Process. This serves as clear evidence that ethical standards were followed in the research, reinforcing its credibility and reliability. Ethical considerations are especially important in early childhood research due to the vulnerability of young children, while also recognising them as competent individuals (Mukherji & Albon, 2018).

## Confidentiality and Anonymity

Confidentiality involves implementing measures to ensure the safety and security of all information related to research projects, such as data and consent letters. Anonymity refers to sharing information in a manner that protects the identities of research participants and the research setting (Bryman, 2016). Anonymity refers to the process of removing names and any identifiable details of research participants to protect their identity (Thomas, 2017). This can be done by using pseudonyms, assigning participant codes (e.g., Participant A), or using general descriptors to ensure individuals remain unidentifiable. Confidentiality involves safeguarding participants' identities so that only the researcher knows who they are. It also means handling any information shared by participants in a way that respects their privacy and adheres to the agreed-upon terms of informed consent, ensuring that their data is not disclosed in a way that could identify them (Thomas, 2017). I ensured that all information gathered from secondary sources or case studies is used responsibly, respecting the privacy of individuals or institutions referenced. For example, pseudonyms will be used where necessary, and no identifiable information will be disclosed in my dissertation.

## Researcher Harm

From the position of a researcher engaged in theoretical inquiry, it is important to acknowledge that engaging with sensitive or controversial topics can still carry emotional and psychological risks. As Largan and Morris (2019) highlight, the act of critically reflecting on complex or 'hot' issues—particularly those that intersect with personal beliefs or lived experiences—may evoke emotional strain. I ensured I worked within my capacity, took regular breaks, and sought support when needed to maintain my well-being throughout the process. When reviewing sensitive topics like trauma or discrimination, researchers should be mindful of emotional impacts. Approaching such subjects with care minimises burnout and respects the well-being of both the researcher and readers.

## Inform consent

Informed consent in research refers to the process by which potential participants are provided with adequate information to make an informed decision about their participation in a study. According to Albon and Mukherj (2018), this involves delivering detailed information to participants in an accessible manner to ensure they fully understand the purpose, methods, risks, and benefits of the research. In empirical research, obtaining informed consent is crucial for protecting the rights, dignity, and autonomy

of participants. However, in non-empirical research, which typically involves secondary data analysis or theoretical exploration, informed consent does not apply in the same way, as there are no direct interactions with human participants or collection of primary data. In reviewing the empirical literature, I found that all the sources I consulted indicated that the researchers took appropriate steps to ensure informed consent from participants. Each study made sure that participants were fully aware of the nature of the research.

## Benefits and Risks

The research on multimodal learning in early childhood education presents both benefits and risks. A key benefit is its potential to enhance literacy and social-emotional development by integrating visual, auditory, and kinesthetic learning experiences. This approach can help educators and policymakers develop more effective teaching strategies, fostering improved engagement and emotional well-being in young learners. In non-empirical research, particularly when synthesising others' ideas, there's a risk of not giving proper credit or misrepresenting a scholar's argument, intentionally or unintentionally. Ethical writing, such as accurate citation and respectful engagement with others' ideas, is essential, and failing to uphold these standards could undermine the integrity of my research. To address this, I carefully read and analysed each piece of literature before integrating it into my work, ensured that I fully understood the author's argument before summarising or paraphrasing it.

## Power Relations in the Literature

As a researcher, I held significant power in analysing and interpreting the data, shaping the direction and conclusions of my study. My role allowed me to determine which sources to include, how to frame the discussion, and which perspectives to prioritise. This influence meant I had to remain critically aware of my own biases to ensure a fair and balanced analysis. The power dynamics within research also extend to how knowledge is constructed—while I relied on existing studies, my interpretation played a key role in shaping the overall narrative. Moreover, the ability to critique and validate certain methodologies gave me authority over how multimodal learning's impact was understood. Recognising this power, I engaged in reflexivity to challenge my own assumptions and ensure that multiple perspectives were considered. By acknowledging these dynamics, I aimed to conduct a more ethical and inclusive study that fairly represented different viewpoints on multimodal learning.

## Reflexivity

This is the process of being aware and analysing how the context of a researcher may bias the whole research process. According to Mukherji and Albon (2018), reflexivity involves the researcher reflecting on their role in the research process, recognising how their personal background, values, and experiences influence the study. This practice fosters critical self-awareness, ensuring that researchers are transparent about how their perspectives shape the research and its outcomes, ultimately contributing to more rigorous and trustworthy findings. My own reflexivity includes recognising how my education background and interest in multimodal learning shape my engagement with texts. I approach the literature as an advocate for young children's development and have actively sought out additional sources to minimise bias and maintain a neutral interpretation.

## Conclusion

This research explored the impact of Multimodal approaches in early childhood education enhance literacy and social-emotional development by integrating visual, auditory, kinesthetic, and tactile

experiences. Research shows that using various communication methods—such as storytelling, digital media, and play-based activities—improves phonemic awareness, comprehension, and vocabulary. Techniques like interactive storytelling and drama-based activities boost engagement and retention, while social-emotional benefits include improved emotional intelligence and teamwork skills. However, balancing digital resources with traditional methods is vital to prevent issues such as diminished handwriting and independent reading skills. Overall, multimodal learning is an effective strategy that requires further research to optimise implementation for nurturing adaptable learners in evolving educational contexts.

The research highlights that multimodal learning significantly enhances literacy development by improving phonological awareness, reading comprehension, and vocabulary acquisition through multi-sensory engagement. Strategies such as storytelling, digital tools, drama, music, and play-based learning create deeper connections between text and meaning. Additionally, multimodal approaches foster social-emotional growth by promoting emotional regulation, empathy, and social skills through activities like role-playing, dance, and collaborative storytelling. This aligns with Vygotsky's sociocultural theory, which emphasises the social negotiation of knowledge, highlighting the importance of interaction in learning. The study also underscores the need for proper teacher training, accessible resources, and adaptable curricula for effective implementation, while cautioning against over-reliance on digital tools at the expense of traditional literacy practices.

This study challenges the dominance of text-based instructional methods by advocating for a more holistic and sensory-rich approach to early childhood education. Moreover, the research identifies gaps in literature, particularly the need for studies that explore the synergistic effects of multimodal strategies on literacy and emotional development. The findings advocate for curriculum reforms and teacher training to effectively integrate multimodal pedagogies in early childhood classrooms.

Reflecting on the research process, certain modifications could enhance future investigations. Future studies could include a more diverse range of early childhood education settings to provide a more comprehensive understanding of multimodal learning's effectiveness across different cultural and socioeconomic backgrounds. Conducting experimental or longitudinal studies could strengthen the findings by providing measurable evidence of multimodal learning's long-term benefits. Further research should also explore specific training programs that best support educators in integrating multimodal strategies.

In future, if I get the chance to conduct this research again, I would adopt a more hands-on approach by incorporating primary data collection methods, such as case studies or interviews with educators. This would enable me to gain a deeper understanding of the practical application of multimodal learning strategies. I would also employ an empirical research design, as it would provide more practical insights and firsthand experiences. Additionally, I would utilise triangulation to enhance the reliability and validity of the data by cross-verifying findings from multiple sources. Furthermore, I would place greater emphasis on examining the challenges educators encounter when implementing multimodal strategies and exploring potential solutions to overcome these obstacles.

Positionality refers to how a person's background, including factors like race, class, and gender, shapes their perspective and influences their understanding of knowledge (Frost, 2016, p. 34). Throughout this research, my understanding of multimodal learning evolved significantly. Initially, I viewed it mainly as a tool for enhancing engagement. However, the study revealed that multimodal strategies fundamentally transform how children acquire literacy and develop social-emotional skills. Additionally, my positionality shifted through the process. While I began with a professional focus, my role as a parent deepened my empathy for children's challenges. This led to a more holistic perspective, considering both educational strategies and children's emotional needs, ultimately shaping a more balanced and inclusive view of multimodal learning in early childhood.

## Recommendations

This study recommends conducting longitudinal research to assess the long-term effects of multimodal learning, especially in special education and for bilingual learners. From a policy perspective, national and regional education policies should incorporate multimodal learning as a standard practice in early childhood education. Educators and policymakers must prioritise diverse learning methods, and teacher training programs should prepare teachers to address varied student abilities. Schools need tools for implementing multimodal activities, and funding should support teacher training in these strategies. Moreover, curriculum developers should include multimodal approaches, and professional development workshops should equip educators with the necessary skills to combine traditional and digital tools for enhanced learning outcomes.

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