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Building inclusive dance communities : A codesigned approach to enhancing participation for children with cerebral palsy

Duarte Machado, Eduardo

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Building inclusive dance communities: A co-designed approach to enhancing participation for children with cerebral palsy

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A thesis submitted for the degree of Doctor of Philosophy at Australian Catholic University in 2024

School of Allied Health
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Abstract

Background: Participation in chosen activities is a fundamental right for all children, yet children with cerebral palsy (CP) engage less frequently in leisure-time activities compared to typically developing children. Many barriers hinder their full participation in community-based activities, including environmental challenges such as inaccessible classes, ableist cultures, and a general lack of disability awareness, leading to unintentional exclusion. While participation-focused programs exist, they are often therapy-centred rather than community-based. This gap highlights the need for community-based activities that not only facilitate physical rehabilitation and enhance participation outcomes but also promote true inclusion within the community.

Aim: This thesis aimed to co-design an evidence-based, inclusive dance approach that promotes the inclusion of children with CP in community-based dance classes and enhances their participation. The research sought to incorporate the voices of children with CP, their families, and dance educators, ensuring their experiences and needs guide the development of a dance class that fosters robust inclusion and participation.

Methods: This research employed a participatory design methodology, integrating both quantitative and qualitative approaches in two main phases. The first phase involved a systematic review and meta-analysis, conducted according to PRISMA guidelines, to assess the efficacy of dance-related interventions for individuals with CP, with a focus on participation outcomes. The review was followed by qualitative consultations with children with CP (n = 2), their families (n = 2), and dance educators and health professionals (n = 5) to prioritise their goals and needs, grounding the co-design process in real-world experiences. In the second phase, the co-design of a dance approach guide used the Experience-based Co-design (EBCD) methodology, with six

interactive workshops that allowed eleven stakeholders to actively contribute to the guide's development. The process was adapted to ensure flexibility and responsiveness to feedback. A review phase using an explanatory sequential mixed methods design, involved five dance teachers not previously engaged in the co-design process to provide additional feedback through online survey and a semi-structured focus group, particularly regarding the guide's practicality and adaptability for diverse community settings.

Results: The systematic review revealed a lack of interventions focusing on participation outcomes for children with CP, with existing approaches mostly centred on physical rehabilitation focused on body structure and function. Qualitative insights from children with CP, their families, therapists, and dance educators stressed the need for inclusive environments that could accommodate a wide range of abilities, promoting equitable participation. The co-design phase led to the creation of a dance approach that incorporated adaptive strategies, supportive peer interactions, and opportunities for community engagement, all tailored to enhance inclusion and participation. During the review phase, dance teachers praised the guide's adaptability to different community contexts, though they suggested the need for further training to support teachers unfamiliar with adaptive techniques. Overall, the feedback affirmed the guide's focus on fostering inclusion and improving participation, noting its potential to create more inclusive community dance environments.

Conclusion: This thesis demonstrates the value of a co-designed, evidence-based inclusive dance approach that addresses the diverse needs of children with CP by fostering inclusion and participation in community settings. The research moves beyond traditional medical model, by shifting the focus to the social model. Through the co-design process, knowledge users played an active role in developing a flexible

guide that can be adapted to different community settings. Feedback from dance educators highlighted the guide's practicality, adaptability and appropriateness. The research underscores the importance of participatory design in creating inclusive classes and calls for future research to explore the long-term impacts and sustainability of such approaches, with the aim of ensuring broader implementation and enhancing inclusion in community-based activities.

Statement of Authorship and Sources

This thesis contains no material that has been extracted in whole or in part from a thesis that I have submitted towards the award of any other degree or diploma in any other tertiary institution. No other person's work has been used without due acknowledgment in the main text of the thesis. All research procedures reported in the thesis received the approval of the relevant Ethics/Safety Committees (where required).

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Eduardo Duarte Machado

15th of November 2024

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Professor Michael Cole	10%
Professor Laura Miller	10%
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Conception & Design: EDM, PW, MC, LM
Analysis & Interpretation: EDM, PW, MC, LM, TM
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Contributions by others to the thesis

In addition to the contributions to individual papers described above, the following contributions were made to this thesis:

- Conception and design: Professor Laura Miller, Professor Peter Wilson, Professor Michael Cole.
- Assistance with statistical analysis: Professor Laura Miller, Professor Peter Wilson, Professor Michael Cole.
- Critical revision of findings: Professor Laura Miller, Professor Michael Cole.

No works submitted towards another degree have been included in this thesis.

Research Involving Human or Animal Subjects

Study 2 and the extended part of Study 3 (involving external review of the guide) (Chapters 4 and 5) involved human subjects and required prior ethical review and approval by independent review committees. The following ethical approvals were obtained to conduct the research described in this thesis:

- Australian Catholic University's Human Research Ethics Committee (HREC) Ethics Register Number: 2021-302H

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Keywords

Cerebral Palsy, Inclusion, Participation, Dance, Co-design, Participatory design

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List of Abbreviations

10MWT	10-Metre Walking Test
6MWT	6-Metre Walking Test
ABC	Activities-Specific Balance Confidence
ADL	Activities of Daily Living
ADT	Adaptation Test
Alb	Albumin
BBS	Berg Balance Scale
BCS	Body Cathexis Scale
BMI	Body Mass Index
BS&F	Body Structure and Function
CAP	Consumer Advisory Panel
CASP	Critical Appraisal Skills Programme
CB&M	Community Balance and Mobility Scale
CD	Creative Dance
CFCS	Communication Function Classification System
CI	Confidence Intervals
CO-OP	Cognitive Orientation to Daily Occupational Performance Approach
CoA	Commonwealth of Australia
CoF	Centre of Force
CP	Cerebral Palsy
DEEWR	Department of Employment Education and Workplace Relations
DGI	Dynamic Gait Index
DRC	Disability Royal Commission
DXA	Dual X-ray Absorptiometry

EBCD	Experience-Based Co-Design
ECIA	Early Childhood Intervention Australia
FER	Family Engagement in Research
FGA	Functional Gait Assessment
FIM	Functional Independence Measure
fPRC	Family of Participation-Related Constructs
GMFCS	Gross Motor Function Classification System
GMFM	Gross Motor Function Measure
GRIPP-2	Guidance For Reporting Involvement of Patients and the Public Short Form
Hb	Haemoglobin
HR	Heart Rate
HREC	Human Research Ethics Committee
IADL	Instrumental Activities of Daily Living
IAP2	International Association for Public Participation
ICF	International Classification of Functioning, Disability and Health
ID	Interpretive Description
IDI	Informal Dance Intervention
iKT	Integrated Knowledge Translation
JBI	Joanna Briggs Institute
K-ABC	Activities-Specific Balance Confidence Scale
K-MBI	Modified Barthel Index
KT	Knowledge Translation
LoS	Limits of Stability
MACS	Manual Ability Classification System
MCT	Motor Control Test

NDIS	National Disability Insurance Scheme
O2P	Oxygen Pulse
PAR	Participatory Action Research
PBS	Pediatric Balance Scale
PD	Professional Development
PPI	Patient And Public Involvement
P-POD	Partnership-focussed Principles-driven Online co-Design
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PROSPERO	International Prospective Register of Systematic Reviews
PRT	Pediatric Reach Test
QoL	Quality of Life
QUEST	Quality of Upper Extremity Skill Test
RAD	Royal Academy of Dance
RCT	Randomised Controlled Trial
ROM	Range of Motion
RTA	Reflexive Thematic Analysis
SCALE	Selective Control Assessment of Lower Extremity
SD	Standard Deviations
SDT	Self-Determination Theory
SE	Standard Error
SOT	Sensory Organization Test
SR	Systematic Review
TALT	Técnica Aplicada Lavinia Teixeira
TDC	Targeted Dance Class
TUDS	Time Up and Down Stairs

TUG	Time Up and Go
UDL	Universal Design for Learning
UN	United Nations
UNCRPWD	United Nations Convention on the Rights of Persons with Disabilities
USA	United States of America
VO2	Oxygen Uptake
WHO	World Health Organization
WHODAS	WHO Disability Assessment Schedule

Operational Definitions

- Knowledge Users: In this thesis, "knowledge users" (also referred to in the literature, as end-users, consumers, or stakeholders in other frameworks) refers to children with cerebral palsy (CP), their parents/caregivers, service providers, and community facilitators (e.g., dance/physical education teachers involved in community or school dance classes). This term encompasses a diverse range of stakeholders and reflects their active participation throughout the consultation, co-design, evaluation, and dissemination of the research.
- Dance Teacher Reviewers: Dance teacher reviewers are those who participated in the initial evaluation of the inclusive dance guide, Phase Four. They were not involved in the initial co-design process but provided critical feedback on the guide's practicality, adaptability, and relevance in real-world community dance class settings.
- Dancers: In the context of dance, children with CP are referred to as "dancers" throughout this thesis to highlight their active role in the art of dance. This terminology aligns with the social model of disability, focusing on their active participation and identity as dancers.
- Community-based activities/classes: Community-based activities or classes refer to regular engagement, such as dance classes or other activities in local communities. These activities foster participation alongside peers in everyday settings, promoting opportunities for engagement and belonging within the community.
- Participation: Participation involves both attendance and involvement, considering intrinsic and extrinsic factors such as personal preferences, abilities, and external supports that allow for an active and meaningful engagement in activities.
- Inclusion: Inclusion is defined as creating environments where children with disabilities can fully and actively participate alongside their peers in community-

based activities or classes. It goes beyond physical presence to ensure equitable access to meaningful engagement, with appropriate supports and modifications that foster a sense of belonging.

- Integration: Integration refers to placing children with disabilities into community-based activities or classes without ensuring they have the necessary supports to engage meaningfully. While physically present, these children may not be provided with the resources to ensure full involvement and engagement with peers, leading to integration, but not inclusion.
- Segregation: Segregation involves separating children with disabilities from typically developing peers by placing them in settings or programs specifically designated for individuals with disabilities. This often limits opportunities for interaction, shared learning, and community participation.
- Exclusion: Exclusion refers to the deliberate or inadvertent prevention of individuals, such as children with CP, from participating in activities or classes with peers. This may occur due to physical barriers, social attitudes, or a lack of necessary supports, leading to isolation or limited opportunities for meaningful engagement.

References for these definitions are provided throughout the thesis.

Chapter 1. Research Background

Cerebral palsy

Cerebral palsy (CP) is an umbrella term for a group of lifelong disorders of movement and posture, caused by non-progressive disturbances in the developing brain (Jahan et al., 2021; McIntyre et al., 2022). Recent studies estimate that 1.2 out of every 1000 births in Australia are impacted by CP, making it the most significant cause of motor impairment and physical disability in young children (Galea et al., 2019; Smithers-Sheedy et al., 2022). Postural and motor dysfunction associated with CP are commonly accompanied by cognitive, sensory, and behavioural impairments, and the presentation and severity of CP in childhood varies considerably (Abd Elmagid & Magdy, 2021). Due to the complex clinical presentation and the heterogeneity in the type, topography, and severity of the motor disorder, there is a need for a standardised description of the health, functional abilities, and support needs of individuals with CP (Schiariti et al., 2018; Smithers-Sheedy et al., 2022). The International Classification of Functioning, Disability and Health (ICF) (WHO, 2001) is a framework commonly used in paediatric rehabilitation to describe different aspects of functioning, disability, and health in young people with CP (Noten et al., 2021).

The International Classification of Functioning, Disability and Health

The ICF is a biopsychosocial framework designed to provide a common language and shared understanding of health and health-related conditions (Chagas et al., 2023; Rosenbaum, 2021). This framework is a multi-dimensional model that illustrates the bi-directional relationships among the five core components of a health condition (Figure 1): Body Structure and Function, Activity, Participation, and both Personal and Environmental Contextual Factors (Noten et al., 2021; Schiariti et al., 2018). Within the ICF, Body Structure and Function refers to impairments, such as motor dysfunction or cognitive impairments, that may directly lead to activity limitations and participation restrictions for individuals with

disability (Vargus-Adams & Majnemer, 2014).

According to the traditional medical model, interventions focusing on the individual's Body Structure and Function may reduce impairments, which in turn leads to increased activity capacity and participation (van der Veen et al., 2023; Vargus-Adams & Majnemer, 2014). However, current evidence suggests that single interventions targeting specific physiological or psychological functions at the level of Body Structure and Function do not necessarily lead to significant global changes in participation (Chagas et al., 2023; Leite et al., 2024). Therefore, to fully understand the health and development of individuals with CP across their life course, it is important to understand the reciprocal relationships each ICF component has with one another and with the health condition itself, with particular attention to the contextual factors (environmental and personal) and their impact on a person's development throughout their life (Chagas et al., 2023; Palisano et al., 2017).

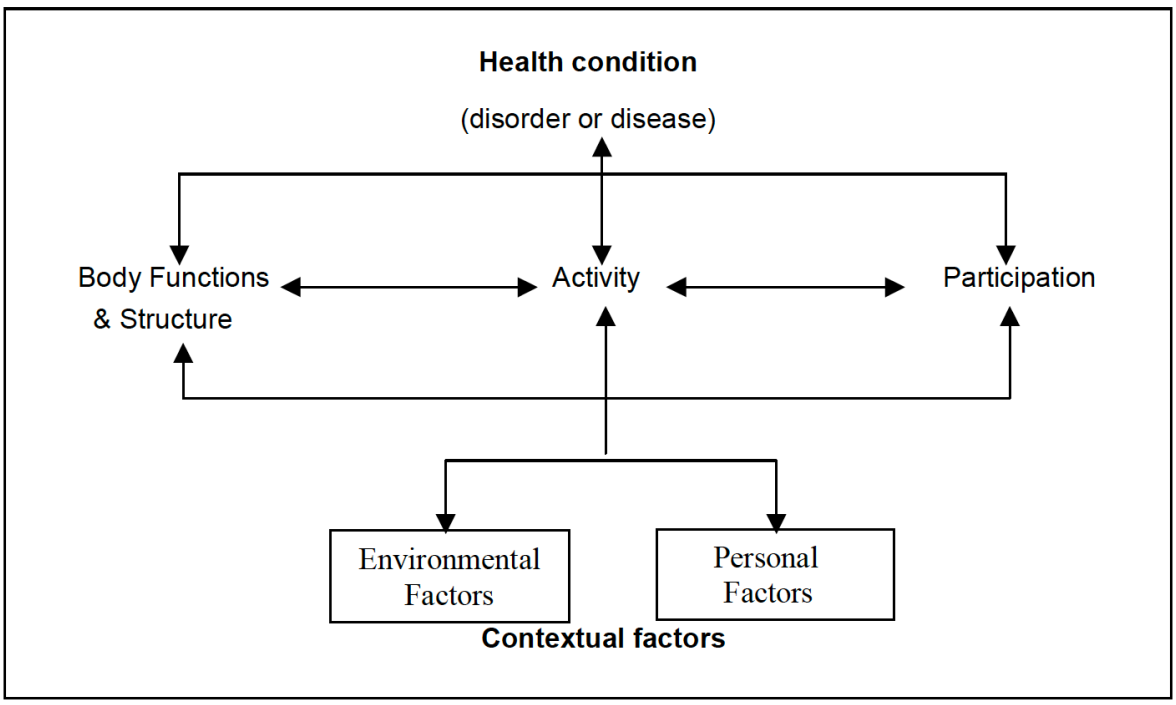


Figure 1. World Health Organization (2002). Towards a Common Language for Functioning, Disability and Health ICF. Geneva: World Health Organization. P.9.

The shift towards participation

Since the introduction of the ICF (WHO, 2001), there has been a significant shift towards prioritising the promotion of activity and participation over focusing on fixing "problems" and impairments (Anaby et al., 2022; Chagas et al., 2023). According to the ICF, participation is defined as 'involvement in a life situation' and it is centred on everyday functioning (Milicevic & Nedovic, 2018; Schlebusch et al., 2020). However, this broad definition fails to address multifaceted dimensions of participation such as self-concept, self-efficacy, and self-determination (Duckworth et al., 2020; van der Kemp et al., 2022). To better understand the how and why people with disability participate in diverse life situations, contemporary thinking including the F-Words in Child Development (Rosenbaum & Gorter, 2012) and the Family of Participation-Related Constructs (fPRC) (Imms et al., 2017) have evolved over the past decade and now dominate both participation research and clinical practice (Imms et al., 2017; Mobbs et al., 2021; Rosenbaum & Gorter, 2012).

The F-Words in Child Development

The F-Words in Child Development, introduced by Rosenbaum and Gorter in (2012) reinterprets the ICF in the context of childhood conditions or disability, using six key terms: function, fitness, family, friends, fun, and future. The F-Words encompass all important aspects of development and participation in the child's life (Figure 2): "Fitness" emphasises the importance of health promotion and both physical and mental health and wellbeing; "Function" refers to what the child can do in their daily lives; "Friends" focuses on the social aspects of the child's life; "Family" represents the main environment in which the child lives; "Fun" is about what is meaningful and pleasurable for the child; and "Future" encourages those involved with the child to think about their development over the life course and long-term prospects and aspirations (Rosenbaum & Gorter, 2012; Soper et al., 2019).

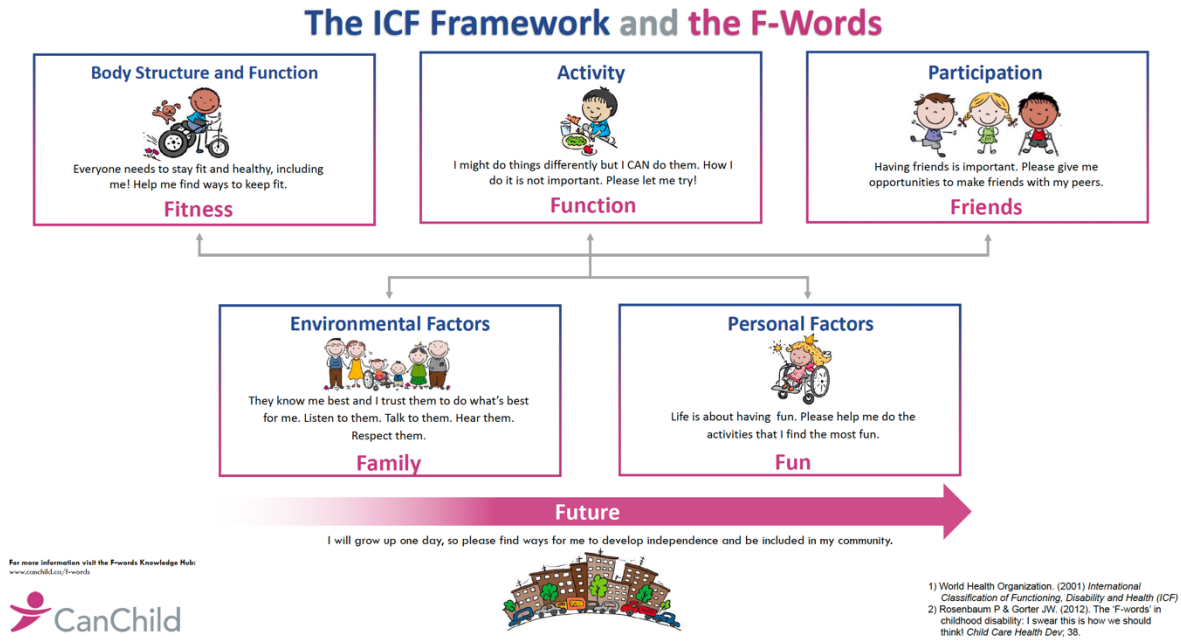


Figure 2. Rosenbaum and Gorter (2012). ICF Framework and the F-words poster. *https://canchild.ca/system/tenon/assets/attachments/000/004/249/original/ICFFramework_and_Fwords_ENG-ACCESS.pdf*

Family of Participation-Related Constructs (fPRC)

To consider a broader understanding of participation and its related concepts, Imms and colleagues (2017) developed the Family of Participation-Related Constructs (fPRC), extending the definition of participation beyond involvement in life situations, to further consider the complexity of participation including the intrinsic and extrinsic factors that influence the life outcomes of people with a disability (Adair et al., 2018; Imms et al., 2017). For the fPRC framework, participation comprises two core components: ***attendance***, referred to as "being there", measured by frequency; and ***involvement***, defined as “the experience of participation while attending”, which includes social connection, engagement and motivation (Imms et al., 2017, p. 18). Therefore, to understand and measure “involvement”, it is necessary to take into consideration the contextual elements of the activity and the internal motivations of the individual (Kaelin et al., 2021).

According to the fPRC, preference for an activity is strongly related to the child’s experience of involvement in the activity (Imms et al., 2017). As the child develops

appropriate mental and physical activity competencies, positive experiences of participation and enjoyment in the activity are enhanced. In turn, this increases the likelihood that the child will further engage in the activity (Figure 3) (Nyquist et al., 2020). This transactional relationship includes constructs that influence and are influenced by participation, such as intrinsic factors (activity competence, preferences, and sense of self) and extrinsic factors (environment or context) (Kaelin et al., 2021; Mobbs et al., 2021). This model considers the fundamental constructs of participation (attendance and involvement) within a dynamic framework (Mobbs et al., 2021). Therefore, to better understand the participation of children with CP, we need to understand the individual, environmental and contextual facilitators of enhanced participation together with the barriers that impede children and youth's participation in key life situations (Ding et al., 2024; Sivaratnam et al., 2020).

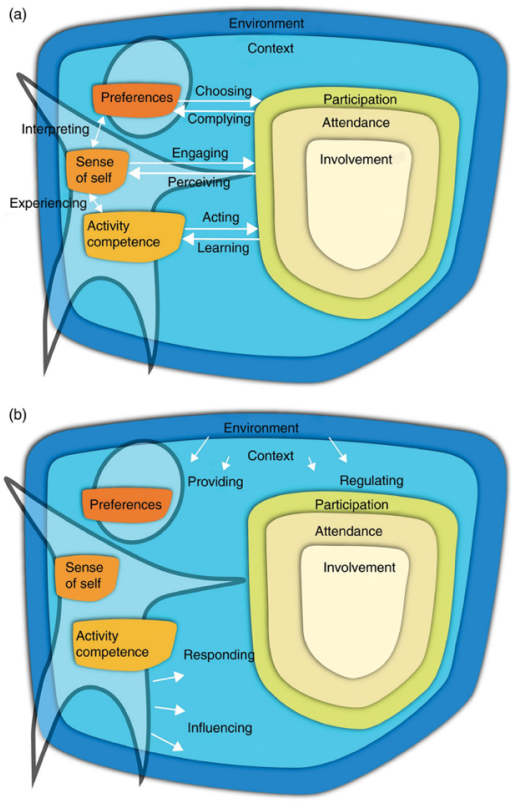


Figure 3. Family of Participation-Related Constructs: (a) person-focused processes, (b) environment-focused processes. From "Participation, both a means and an end: a conceptual analysis of processes and outcomes in childhood disability" by Imms et al. (2017), p. 19. Copyright by Developmental Medicine & Child Neurology. Used in thesis with permission.

Factors associated with increased participation in CP

The recent literature on participation-focused interventions identifies multiple factors contributing to meaningful participation outcomes for children and adolescents with CP, ranging from adapted activities to broader contextual influences (Kilgour et al., 2023; van der Kemp et al., 2022). Adapted activities, when tailored to the individual's interests and abilities, have been shown to positively impact key participation-related constructs, such as activity competence, preferences, and self-efficacy, which lead to sustained engagement and meaningful participation (Nyquist et al., 2020; Youngblood et al., 2023). These activities often provide a sense of mastery and enjoyment (Nyquist et al., 2020), however, as Kilgour et al. (2023) points out, meaningful participation is complex, and involves both intrinsic and extrinsic factors such as personal effort, persistence, and community support.

Environmental factors also have a significant influence on participation for children and youth with CP (Stroobach et al., 2022). Access to resources, community inclusion, and social attitudes play a key role in enabling or restricting participation (Morris et al., 2019; Stroobach et al., 2022). Furthermore, family and community support have been consistently shown to facilitate participation across various settings, including home, school, and community activities (van der Kemp et al., 2022). These factors emphasise the need to focus on reducing structural barriers to community activities and encourage long-term engagement for children with CP (McKenzie et al., 2023; van der Kemp et al., 2022). For Quartermaine et al. (2024), sustained participation can only be achieved when interventions not only address physical activity competence and extrinsic factors but also by considering the child's broader social and emotional context, including peer relationships and self-determination.

In addition to environmental influences, individual and intrinsic factors such as enjoyment and self-determination are essential in sustaining participation (Morris et al., 2019). While Morris et al. (2019) recommends that adolescents with CP need to enjoy the

type of activity to enable sustained participation, Kilgour et al. (2023) states that strategies to enhance ongoing involvement in physical activity go beyond the notion of enjoyment and require a dynamic interplay of factors. Therefore, optimal participation requires interventions that consider the whole individual within their environment, accounting for both personal and contextual factors (Stroobach et al., 2022).

Despite the emerging literature on facilitators and barriers to participation (Abid et al., 2023), persistent barriers continue to hinder participation for children with CP in community-based activities (Ding et al., 2024; Stroobach et al., 2022). These barriers include physical accessibility challenges, negative social attitudes, and a lack of awareness among community organisers about the needs of children with disabilities (Ding et al., 2024; Jeanes et al., 2018b). Families often express frustration with the limited availability of inclusive community activities, noting despite many activities claiming to include children with disabilities, children often remain segregated through inadequate adaptation to accommodate varying abilities or lack of involvement and engagement of children in the community activity (Gilmore & Wotherspoon, 2021; Quartermaine et al., 2024). This 'integrated' approach or outright exclusion of children with disabilities is further compounded by an ableist culture, where societal norms and expectations prioritise able-bodied individuals, leaving children with CP marginalised and with fewer opportunities to participate meaningfully with their peers (Jeanes et al., 2018b; Ullenhag et al., 2024). The structural and embedded nature of these barriers underscores the need for systemic changes in community settings that promote accessibility, inclusivity, and the active engagement of children with CP in a wide range of community-based activities (McKenzie et al., 2023).

This is where the evolution of participation-focused interventions becomes critical (Granlund & Imms, 2024). As the broader understanding of participation has shifted, frameworks such as the fPRC have highlighted the need to address both the physical and

social barriers to participation (Granlund & Imms, 2024). Early research on CP primarily targeted impairments in body structure and function, assuming that such improvements would automatically translate into better participation outcomes (Adair et al., 2015). However, as research has evolved, it has become clear that participation is far more complex and requires attention to contextual and personal factors such as environmental accessibility, family involvement, and social support (Anaby et al., 2022; Granlund & Imms, 2024).

This shift has led to the development of community-based interventions that take a more holistic approach, addressing both physical and social aspects of participation to ensure sustained involvement (McKenzie et al., 2023; Morris et al., 2019; Sivaratnam et al., 2020). Such programs are now widely recognised for their ability to enhance not only the physical, social, and emotional health of children and adolescents with CP, but also for fostering inclusion in physical, social, and artistic activities (Berthiaume et al., 2024; McKenzie et al., 2023; Sivaratnam et al., 2020; Smart et al., 2018).

The impact of inclusive community activities on participation for children and youth with CP

Building on this evolving understanding, community-based 'participation-focused' interventions have become crucial in facilitating participation for children with CP (Kilgour et al., 2023). These programs have expanded beyond the traditional intensive, clinic-based interventions to more inclusive models embedded within the community (Clutterbuck et al., 2022; Millard et al., 2021; Reedman et al., 2021b; Sivaratnam et al., 2020). However, while these participation-focused and community-based interventions have been successful in helping children with CP develop skills and competencies in their chosen activities, there is a growing desire among families and individuals with CP to move from segregated or specialised activities where all or most children involved have a disability, towards genuine

inclusion in mainstream community settings with peers (Gilmore & Wotherspoon, 2021; Haynes et al., 2024).

The "Dance" between Inclusion and Participation

To understand this shift, it is important to first conceptualise the "dance" between inclusion and participation. Participation can be seen as both the outcome of inclusion and a means to achieve further inclusion (Ullenhag et al., 2024). Inclusive environments naturally support participation by reducing barriers and creating contexts that encourage social connection, engagement, and autonomy (Smart et al., 2018; Ullenhag et al., 2024). Additionally, when children with CP are provided with opportunities to participate in community-based activities, they have the potential to not only develop physical skills but also enhance self-concept and self-efficacy, which can contribute to a stronger sense of belonging and inclusion (Granlund & Imms, 2024; Haynes et al., 2025; Sivaratnam et al., 2020). This "dance" between inclusion and participation suggests that fostering inclusive practices may lead to enhanced participation, and in turn, participation in community-based activities could contribute towards greater inclusion (Granlund & Imms, 2024; Ullenhag et al., 2024). Therefore, while participation is a key outcome, inclusive settings are likely necessary to promote sustained, meaningful involvement in various life activities (Ullenhag et al., 2024).

The role of community activities in fostering participation

To foster the shift towards inclusive practices and community-based activities that naturally support participation without relying solely on intensive interventions, inclusive policies addressing attitude changes at the individual, organisational and societal level, including the upskilling of community recreation services to ensure best practice disability inclusion are essential (Ding et al., 2024; McKenzie et al., 2023). Participation in inclusive community-based activities such as athletic and sports teams or group performance and arts-based activities offers children opportunities for social connection, enjoyment, and a sense of

belonging to a community (Noonan et al., 2020; Smart et al., 2018). The benefits of community-based activities for children with CP extend beyond physical skills and positively influence cognitive, social, emotional, and psychological outcomes (Haynes et al., 2024; Keawutan et al., 2017). Importantly, the extent to which children with CP participate in and sustain participation over time, in various life situations is strongly influenced by their self-concept, self-efficacy and sense of belonging (Ding et al., 2024). These constructs are shaped by successful participation experiences. When children feel competent in their abilities and achieve positive outcomes in their lives, their sense of self is strengthened, and they are motivated to further engage in new experiences (Imms et al., 2017). However, children who lack such opportunities are at higher risk of adopting a sedentary lifestyle and may experience reduced social participation compared to those who are more involved in community-based activities in their childhood (Kilgour et al., 2021; Vila-Nova et al., 2021).

Despite the benefits of community-based activities for a child's social and functional development, children with lifelong health conditions, such as CP, participate less frequently in sports, social activities, and other community activities compared to their typically developing peers (Milicevic & Nedovic, 2018; Noonan et al., 2020). Indeed, children with CP also show lower levels of participation and engagement across a narrower spectrum of activities than typically developing children, evident in a variety of settings including home, community, and at school (Arakelyan et al., 2019; Kilgour et al., 2021; Resch et al., 2020). In Australia, children and adolescents with CP are reported to engage less in regular community-based activities, including recreational, performances, and sports (Gilmore & Wotherspoon, 2021; Morris et al., 2019; Reedman et al., 2021a). In a large qualitative study exploring perceptions of CP within the Australian community, Gilmore and Wotherspoon (2021) identified persistent stigma, stereotyped views, and assumptions of low competence. This highlights how disparities in participation may be partly attributed to the prevailing

ableist culture, where societal norms and expectations often favour able-bodied participation, marginalising individuals with disabilities and creating barriers to their full inclusion (Aujla & Redding, 2013; Levy et al., 2017). These attitudes perpetuate a culture of exclusion, where people with CP have been long excluded and marginalised from accessing community-based arts activities and are less likely to participate in cultural activities (Duarte Machado et al., 2021; Levy et al., 2017).

The idea that people with disability would not fit easily within the current system of mainstream community-based activities, manifests in the slow development of inclusive classes (Jeanes et al., 2018b; Tow et al., 2020). As a result, adaptive sports such as wheelchair polo and basketball have grown throughout the years with an increased uptake amongst children with disabilities and greater visibility on the mainstream stage. However, artistic activities like dance, music, and theatre, have had a much slower development response to support the inclusion of children with disabilities (Tow et al., 2020) and to promote the arts as a welcoming and inclusive space for children with disabilities to explore, experience and thrive. To date, the impact of community-based arts activities on outcomes for children with CP is relatively unexplored in the literature (Edwards et al., 2020). However, safe, and inclusive arts-based activities such as drama, music, and dance, could play an important role in fostering participation in community-based activities for people with CP with benefits to physical, mental and psychosocial wellbeing (Ding et al., 2024; Edwards et al., 2020).

Participation in interactive arts: A transition to a safe and inclusive space

Arts-based activities using performing and visual arts modalities have demonstrated potential to improve outcomes across a broad spectrum of psychosocial domains crucial for the holistic well-being of children with disabilities (Duckworth et al., 2020; Edwards et al., 2020). The literature suggests that programs integrating artistic and cultural activities can have a positive

effect on a range of outcomes related to functioning, psychosocial well-being, and participation among children and adolescents with disability (Edwards et al., 2020; Levy et al., 2017). For individuals with CP, the opportunity to positively influence their environments, express their emotions, and receive public recognition for their contributions may increase their sense of control over the environmental and personal factors influencing their health and well-being (Robey et al., 2016).

Dance is a creative activity that influences various aspects of childhood development (Reinders et al., 2015). In an inclusive dance practice, children with and without disabilities learn together in an environment that fosters creativity, development of motor skills, self-expression, and sense of belonging (Urmston & Aujla, 2019). For children with CP, dance offers the opportunity to redefine their disability and limitations, showcasing their creative strengths, talents, and qualities (Lentzari et al., 2023). This challenges societal perspectives on social justice and inclusion (Lentzari et al., 2023; Levy et al., 2017). Recent reviews showed the benefits of dance for children with CP across social, cultural, emotional, and physical domains (Duarte Machado et al., 2023; May et al., 2021).

At the level of Body Structure and Function, dance and movement to music require the performer to compose a sequence of functional movements, a type of perceptual-motor coordination that can excite motor neurons and train muscle activation patterns, increasing neural activation and providing rehabilitative benefits (Pitale & Bolte, 2020; Teixeira-Machado et al., 2019). The American Dance Therapy Association recommends that dance should be used as a movement therapy because it may foster neuroplasticity, specifically the integrative function of the brain systems responsible for perceptual-motor coordination, including the perception of sound and movement (Teixeira-Machado et al., 2019; Wu et al., 2022). Evidence for this has been presented in recent studies that demonstrate dance training can induce neuroplasticity and improve balance, postural control, and mobility in people with

or without neurological conditions (Duarte Machado et al., 2023; Mendoza-Sanchez et al., 2022; Muller et al., 2017; Teixeira-Machado et al., 2019).

To date, research has mostly reported benefits of dance for children with CP at the level of Body Structure and Function, such as its positive influence on motor, psychosocial and cognitive development (Cherriere et al., 2020b; Duarte Machado et al., 2023). However, more recent studies have highlighted positive outcomes related to participation, self-confidence, friendships, aesthetic expression, and appreciation (Cherriere et al., 2020b; Lentzari et al., 2023). Participation in community-based dance programs and public dance performances has been associated with the positive development of self-confidence, self-image, self-esteem, and self-worth, and increased participation in physical and social activities among people with CP (Lentzari et al., 2023; Millard et al., 2021; Swaine et al., 2020). Thus, the benefits of dance for people with CP extend beyond therapeutic goals, encompassing different areas of health and education (Lentzari et al., 2023).

Despite the strong theoretical support for arts-based activities to foster inclusion and participation (Cherriere et al., 2020b; Duarte Machado et al., 2023; Lopez-Ortiz et al., 2019), and the growing recognition of the role community-based activities can play in supporting positive participation outcomes (Granlund & Imms, 2024; Millard et al., 2021), dance studies remain focused on Body Structure and Function. This narrow focus on physical improvements may contribute to the ongoing barriers faced in community-based arts activities, including the lack of inclusive resources and inadequate training for facilitators (Aujla & Redding, 2013; Levy et al., 2017; May et al., 2021). As a result, many programs still fall short of creating truly inclusive and participatory environments that fully engage children with CP (Duarte Machado et al., 2023; Poncet et al., 2024). Knowing that families seek inclusive community-based activities that prioritise the inclusion of their child (rather than segregation or integration), there is a need to understand how to implement dance

classes in the community with a focus on participation and inclusion (Gilmore & Wotherspoon, 2021; Levy et al., 2017; Smart et al., 2018).

This underscores the need for approaches that go beyond therapeutic goals and focus on creating inclusive, participatory environments where children with CP can engage fully (Duarte Machado et al., 2023; Millard et al., 2021). As these programs gain traction, the arts could become a critical space for fostering both participation and inclusion in community settings (Millard et al., 2021; Smart et al., 2018).

Translation of evidence-based practices, resources, and tools to support inclusion in arts

While the value of arts-based activities in promoting inclusion and participation for children with CP is clear, there remains a gap in the practical implementation of these programs (Lentzari et al., 2023; Smart et al., 2018). Evidence-based practices need to be translated into tangible resources, tools, and strategies that can be easily adopted by community facilitators, dance educators, and organisations (McKenzie et al., 2023; Poncet et al., 2024). These resources must focus on removing barriers to participation and creating inclusive environments that meet the needs of children with disabilities (Lentzari et al., 2023; Poncet et al., 2024).

Tools such as instructional guides, inclusive teaching strategies, and training modules for facilitators can help ensure that arts classes are truly inclusive and supportive of participation (Gilmore & Wotherspoon, 2021; Jeanes et al., 2018b). By providing community organisers with these resources, the structural and attitudinal barriers that currently prevent children with CP from participating in community-based activities can be addressed (Ullenhag et al., 2024). Moreover, the use of frameworks like the ICF and the fPRC can offer a structured approach to understanding the relationship between participation, environment, and individual capabilities (Granlund & Imms, 2024; Rosenbaum, 2021).

In the context of this research, the goal was to co-design an inclusive dance approach that not only reflected the preferences of knowledge users but also incorporated these evidence-based strategies to foster meaningful participation of children with CP in dance classes. The next chapter delves into the participatory methodologies and co-design processes that underpinned the development of the inclusive dance classes.

Thesis Outline

This chapter highlights both the facilitators and persistent barriers impacting participation for children with CP, with a particular focus on dance classes. The emphasis on participation within the ICF and fPRC frameworks illustrates the need to move beyond a solely impairment-focused approach, advocating for a broader understanding that incorporates environmental and social aspects crucial to fostering inclusion and improving meaningful and impactful outcomes for children with CP. In the initial conception stage of this thesis, the primary plan was to develop a specific 'dance intervention' for children and youths with cerebral palsy (CP). However, as Part One of this research unfolded, it became evident that parents and other knowledge users desired inclusive activities that promote meaningful participation in broader community settings, beyond traditional ‘participation-focused intervention’ models. This shift in knowledge and understanding prompted an expansion of the research focus to emphasise inclusion of children with CP within community dance contexts to enable authentic participation with peers, guided by the perspectives of these knowledge users.

To enable the inclusion of important contextual information that led to the changes in perspective of the thesis, the extended methods chapter (Chapter 2) addresses the frameworks that underpinned the studies' methodologies in this thesis. Among the series of six chapters, there is one paper published in a peer-reviewed journal (Chapter 3), one manuscript under review with a journal (Chapter 4), and one manuscript in review for journal submission

(Chapter 5). Complete references for each chapter and all published works are provided at the end of the thesis.

Chapter 1: Introduction

This chapter explores the intersection between participation and inclusion in dance and arts programs. It provides background on the frameworks that underpinned the studies in this thesis, setting the stage for the research objectives and hypotheses.

Chapter 2: Extended Methods

This chapter describes the participatory methodologies used, including important contextual information. It highlights the PRoblem, Objective, Design, (end-) Users, Co-creators, Evaluation, Scalability (PROCEDURES) framework throughout the methodologies and its application in this research.

Part One: State of the Evidence and Knowledge Users' Perspectives.

Part One of this thesis involves two studies that examine the evidence and knowledge user perspectives for people with CP in dance programs.

Chapter 3: Systematic Review

Study One, Paper titled: The efficacy of dance interventions for the activity and participation of individuals with cerebral palsy – a systematic review and meta-analysis

- **Aim:** To examine the effectiveness of dance interventions reported in the literature for children and adults with cerebral palsy (CP), measured at any level of the International Classification of Functioning, Disability, and Health (ICF), with a specific focus on participation outcomes.
- **Hypothesis:** Dance interventions will show positive outcomes across multiple ICF domains, particularly in participation-related outcomes.
- **Rationale:** This study maps the outcomes measured across the domains of the ICF and adopts the Family of Participation-Related Constructs (fPRC) framework to

provide a comprehensive understanding of the factors influencing participation outcomes for children with CP in dance programs.

Chapter 4: Perspectives of Knowledge Users

Study Two, Paper titled: Key strategies to promote inclusion of children with Cerebral Palsy in community dance classes: families' and dance teachers' perspectives.

- **Aim:** To identify the factors that influence the inclusion of children with cerebral palsy (CP) in dance classes and describe the recommended strategies to facilitate participation.
- **Hypothesis:** Knowledge users will describe barriers and facilitators to meaningful participation of children with CP in community-based dance classes.
- **Rationale:** This study highlights the significance of incorporating the voices of knowledge users into the research process to ensure that the developed program is relevant, meaningful, and inclusive.

Part Two: Practice Innovation – Co-designing a dance approach, the change in paradigmam.

Part Two highlights the shift to inclusive dance practices, comprising Study Three and its expanded chapter to co-design an inclusive dance approach aimed at enhancing the participation of children with CP.

Chapter 5: Co-Design Process and Methodology

Study Three, Paper titled: Co-designing an inclusive dance approach – A practical guide for the inclusion of children with Cerebral Palsy in community-based dance classes.

- **Aim:** To co-design a dance approach for children and youths with CP, engaging both knowledge users and researchers in a collaborative process.

- **Hypothesis:** The co-designed dance approach will reflect the priorities and preferences of knowledge users, resulting in a more inclusive and participation-focused approach.
- **Rationale:** Informed by Part One, the co-design phase aimed to create an inclusive dance approach that reflects the priorities and preferences identified by knowledge users. The Experience-Based Co-Design (EBCD) framework facilitated this process.

Chapter 5b: Expanded

This chapter includes expanded versions of the co-design process and methodology, providing a rapid impact assessment, with a small focus group involving community-based dance teachers not previously involved in the guide development, to review content, materials, and resources, and provide pragmatic feedback for the guide resources and delivery.

Chapter 6: Grand Discussion

In this section, the outcomes of the research presented in this thesis are summarised and critically analysed, drawing connections between the studies, and discussing the strengths, real-world implications, limitations, and future directions for this area of important research. The grand discussion highlights the connections between the thesis development and recent recommendations and changes across the National Disability Insurance Scheme (NDIS) and the Australian Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (hereafter referred to as the Disability Royal Commission), discussing the implications for translation into clinical practice (CoA, 2013; CoA, 2023). The full version of the inclusive dance approach guide is available in the appendices.

Chapter 2. Extended Methods

This Doctor of Philosophy program utilised participatory research methods, including the ***Integrated Knowledge Translation (iKT)*** approach and ***Experience-based Co-design (EBCD)*** to co-develop a dance approach with knowledge users and determined its impact on real-world participation-related outcomes for children with CP. This research used the term "knowledge user" (end-user in other frameworks) to refer to children/youths with CP, their parents/caregivers, and dance/physical education teachers.

Current one-size-fits-all interventions in public health, often developed by top-down approaches where "solutions" are generated by small groups of academic researchers and disseminated to broad and undifferentiated populations, fall short in their effectiveness due to the complexity of individual and contextual factors (Leask et al., 2019; Vaucher et al., 2016). Unlike the top-down processes, a bottom-up approach gives power and control to the knowledge users themselves (Vaucher et al., 2016). Through qualitative health research, knowledge users are heard, and their voices integrated into the design and implementation of the study (Jack & Phoenix, 2022; Vaucher et al., 2016). Thus, using a wide range of qualitative methodologies and methods to provide a deeper understanding of the experiences, perceptions, and needs of knowledge users is crucial (Freire et al., 2022).

Research involving knowledge user engagement ensures that the developed programs are not only evidence-based but effective, sustainable and relevant to the real-world, addressing localised solutions through collaborative efforts involving knowledge users and researchers (Crane et al., 2019; Leask et al., 2019). This participatory approach shifts away from traditional models where patients and their families would assume passive roles in research (research participants) to an active participation in the study design (research partners) (Giannini et al., 2022; Smits et al., 2020). Involving knowledge users across all

stages of the research enhances its relevance and potential impact on health care policy and practice (Black et al., 2018).

Rigorous participatory research methods facilitate public engagement in research while ensuring that their experiences, values, and advice are effectively integrated into the research process (Gainforth et al., 2021; Nguyen et al., 2020; Rolfe et al., 2018). The iKT approach is a collaborative approach where both researchers and knowledge users (patients and families) are considered equal and integral members of the research team (Banner et al., 2019; Boland et al., 2020). The iKT approach provides a unique method by introducing the notion of "knowledge users", thus broadening the scope of inclusivity to encompass a diverse range of stakeholders (Nguyen et al., 2020). The approach requires researchers to work in collaboration with knowledge users at all stages of the research process to: (i) identify key priorities and desired outcomes; (ii) develop research questions and interpret findings; and (iii) advance the application of research findings by recognising and overcoming possible barriers (Banner et al., 2019).

Recent reviews have consistently emphasised the impact of knowledge user in research (Manafo et al., 2018; Wiles et al., 2022). However, patient and public involvement in research is often surrounded by fears of tokenistic approaches and lack of validated methods to guide and evaluate meaningful engagement with knowledge users throughout the research lifecycle (Banner et al., 2019; Black et al., 2018; Wiles et al., 2022). Therefore, this PhD program used systematic guidance tools and evaluation approaches, focusing on how teams addressed diversity and power to foster authentic co-production (Russell et al., 2020; Wiles et al., 2022). A tailored approach to knowledge users' engagement, with high levels of involvement aligned with public goals and embedded evaluation, was followed using the International Association for Public Participation (IAP2) Spectrum of Public Participation

and the Guidance for Reporting Involvement of Patients and the Public (GRIPP2) (Banner et al., 2019; Jull et al., 2017; Staniszewska et al., 2017).

The IAP2 Spectrum of Public Participation model was designed to enhance public involvement in research (Wiles et al., 2022). The model classifies the level of public participation into five categories from low to high: (i) inform, (ii) consult, (iii) involve, (iv) collaborate, and (v) empower (Dawodu et al., 2021; McNeill et al., 2021). The categories show the continuum of engagement from the involvement of knowledge users in the research process to provide experiential insights, to full collaborative partnerships and their involvement in the decision-making processes (Figure 4) (Banner et al., 2019).

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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Figure 4. IAP2 Spectrum of Public Participation (IAP2 International Federation, 2018)

The GRIPP2 is an evidence-based method designed to enhance the quality, transparency, and consistency of reporting on patient and public involvement in health and social care research (Cavens et al., 2022; Headrick et al., 2023; Staniszewska et al., 2017). The GRIPP2 checklists, both the long form (LF) and short form (SF), were developed through consensus building methods and aim to ensure a comprehensive and transparent

reporting of patient and public involvement in research (Banner et al., 2019; Staniszewska et al., 2017). The GRIPP2-SF, in particular, includes five key items: aims, methods, results, outcomes, and reflections/critical perspectives, this emerging patient engagement tool overlaps with iKT and provide an opportunity for greater consistency in the evaluation and reporting of iKT partnerships with knowledge users (Banner et al., 2019; Headrick et al., 2023).

This thesis aimed to involve knowledge users across categories using different approaches. As a starting point a Consumer Advisory Panel (CAP) was established to formally involve knowledge users throughout the research process. The CAP members actively participated across three different stages of the research project (Study Plan, Data Analysis, and Dissemination) and their voices were integrated to increase the legitimacy and rationality of the decision-making. The GRIPP2-SF was completed collaboratively with the CAP to increase the authenticity of knowledge user involvement reporting data (Table 1)

Table 1 Description of knowledge users' involvement using GRIPP2-Short Form (Staniszewska et al., 2017) reporting guidelines.

Section and topic	Description
1. Aim: Report the aim of PPI in the study	To ensure the research is meaningful, useful, appropriate to young people with cerebral palsy (CP). To increase the quality and credibility of the study by integrating comprehensive knowledge of the lived experience of those with CP and dance teachers into the research processes. To promote uptake of the research and translation of the work into practice through involvement of end users
2. Methods: Provide a clear description of the methods used for PPI in the study	A Consumer Advisory Panel (CAP) was created to formally involve knowledge users throughout all phases of the research process. Recruitment was facilitated through existing networks, such as dance and research groups, as well as community organisations, which extended the invitation to their broader communities. The voices of the CAP were prioritised throughout and integrated into decision making to increase the authenticity of knowledge user involvement in the research. The CAP included: (i) two parents supporting people with CP to engage in dance; (ii) a ballet dancer with experience in teaching dance to people with disability; (iii) two allied health therapists with experience in dance interventions; and (iv) a dance researcher.

3. Study results: Outcomes—Report the results of PPI in the study, including both positive and negative outcomes	The CAP was involved in the development and implementation of the research. The CAP played an important role in the focus group phase and their involvement shaped methodological decisions and data interpretation. In the co-design phase, knowledge users actively contributed to the development of the guide by finding resources, reviewing the guide, and providing input into the guide content, including attending to implicit messages in images and text. Each process and step can be time consuming and not all members of the CAP were involved as fully as they desired due time and other personal commitments. Flexibility with involvement was provided and knowledge users' preferences, access needs and availability were determined using tools such as the Family Engagement in Research (FER) Goal Setting tool, the Involvement Matrix, and a team charter, to overcome challenges with time management.
4. Discussion and conclusions: Outcomes—Comment on the extent to which PPI influenced the study overall. Describe positive and negative effects	The co-design process resulted in a guide that was more strength-based, the knowledge user research partners influenced the content of the guide, the delivery and usability processes, and the decisions about what to research next. The CAP involvement throughout the research lifecycle enhanced study quality, relevance, involvement of participants in interviews and focus groups, and data interpretation.
5. Reflections/critical perspective: Comment critically on the study, reflecting on the things that went well and those that did not, so others can learn from this experience.	Involving a Consumer Advisory Panel optimised knowledge users' engagement in each phase of the research. A good working relationship was established between the members of the CAP and the research team that enabled sustained involvement. The research would have benefited by earlier involvement of knowledge users to direct the course of the research from the perspectives of people with lived experience from the outset. For example, the partnership with knowledge users resulted in a shift from research questions focusing on participation in dance interventions to a broader approach by co-creating a practical guide for inclusive dance in community practices. Overall, the changes throughout the study reflect the successful partnership with knowledge users. Future studies must allocate appropriate time to remunerate knowledge users accurately to reflect their time and dedication to the project.

PPI, patient and public involvement.

The different levels of knowledge users' involvement in the research process were guided by the IAP2. These included surveys and focus groups to consult with knowledge users, as well as the CAP and EBCD workshops to respectively collaborate and empower them in developing a relevant, meaningful, and inclusive dance approach. Figure 5 illustrates the array of methods employed to engage consumers throughout the entire research process.

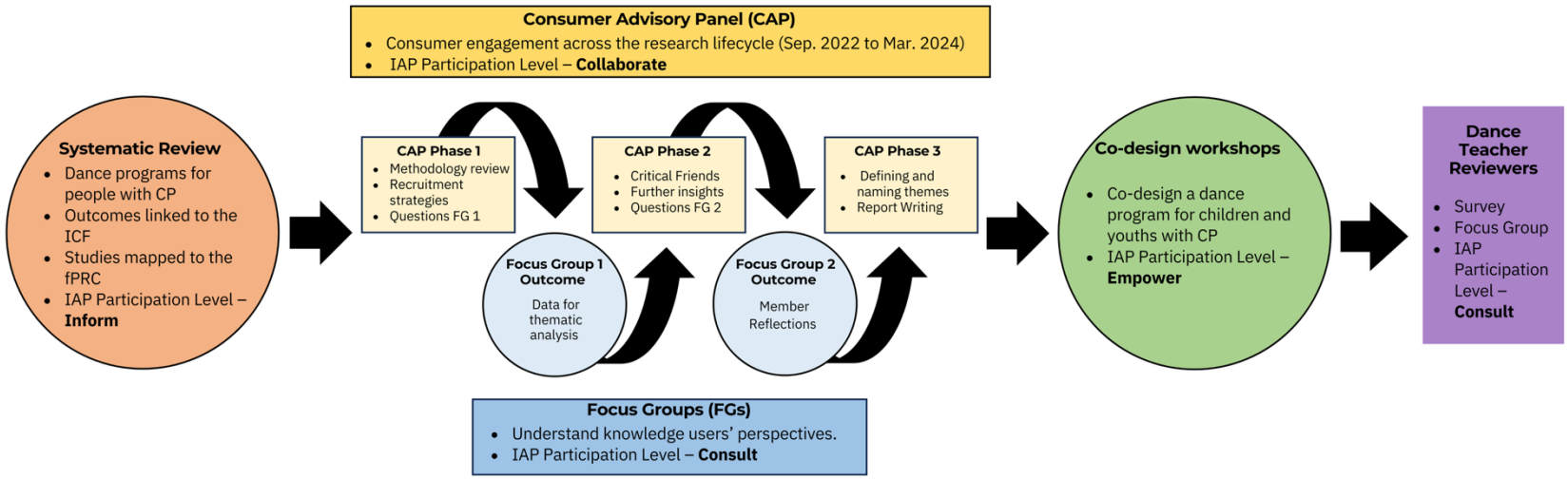


Figure 5. Research engagement methods and level of participation.

Thesis structure

The overall purpose of this doctoral research program was to co-design an evidence-based, inclusive dance approach guide addressing the values, priorities, perspectives and desired outcomes of children and youths with CP and their families. To achieve this aim, the program of research was divided into two parts and studies conducted sequentially, with findings from each informing the next phase of research, ensuring a connected and coherent progression towards the final goal:

Part One: State of the Evidence and Knowledge Users' Perspectives.

As part of the process for developing the inclusive dance approach, a landscape analysis was conducted in Part One to understand the "current state of the evidence". This involved both a systematic review and meta-analysis of the literature. Additionally, knowledge users were consulted to validate and prioritise their goals and needs, guiding the co-design process effort effectively.

Study One: Current State of Evidence

This review examines the effectiveness of dance-related interventions reported in the literature for children and adults with CP, measured at any level of the ICF, with a specific focus on participation outcomes. In addition to mapping the outcomes measured across the domains of the ICF, we adopted the fPRC framework to describe participation in broader terms that captured both attendance and involvement.

A systematic search for research published in English, in peer-reviewed academic journals, across all available years was performed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The PRISMA checklist items are applicable to the reporting of systematic reviews that evaluate other interventions (such as social or educational interventions), with objectives other than evaluating interventions (Page et al., 2021). Data were extracted and synthesised, including study design, participant

characteristics (age, gender, CP subtype, GMFCS level), intervention protocol (number of training sessions, duration of intervention), and measured outcomes, to guide the evidence behind dance programs on the co-design phase. All measured outcomes were mapped across the domains of the ICF. The linking process involved assigning codes of the ICF domains of "Body Structure and Function" and "Activities and Participation." These codes were further divided into chapters and sub-levels within the ICF framework, for example:

1. Body Structure and Function
    1.1. Musculoskeletal and movement functions
        1.1.1. Muscle functions
            1.1.1.1. Muscle Power
            1.1.1.2. Muscle Tone
            1.1.1.3. Muscle Endurance

The resultant map provided evidence of the outcomes that have received the most attention in the research, and those that have been overlooked, or may not yet have enough primary evidence to support synthesis by review. Our second aim was to explore participation outcomes, the two core components of participation (attendance and involvement) were extracted, along with the person-related concepts of activity competence, sense of self, and preferences. These concepts where then linked according to the Family of Participation-Related Constructs (fPRC) framework (Imms et al., 2017). The fPRC framework extends the notion of participation by considering both intrinsic factors (e.g., activity competence, preferences) and extrinsic factors (e.g., environment, context) that influence the life outcomes of individuals with disabilities (Adair et al., 2018; Kilgour et al., 2021). This framework was chosen because it provides a comprehensive understanding of the factors influencing participation outcomes for children with CP in dance programs.

The systematic review was a critical first step in understanding the current state of dance interventions for children with CP and, by linking outcomes to the ICF and fPRC frameworks, made an important contribution to understanding the gaps in knowledge around the benefits of participation in community-based dance programs for children with CP. This holistic approach allowed us to understand not only the physical and functional benefits of dance interventions but also the social, emotional, and contextual factors that contribute to meaningful participation. The findings from this systematic review provided a comprehensive overview of existing evidence and identified key areas for future research, informing the subsequent phases of the doctoral research.

Study Two - Exploring and understanding the perspectives of knowledge users.

Study Two aimed to explore and understand the perspectives of knowledge users, specifically children and youths with CP, their families, and dance/physical education teachers, regarding dance classes for children with CP. This study highlighted the significance of incorporating the voices of knowledge users into the research process to ensure that the developed approach is relevant, meaningful, and inclusive.

The methodology for this study was designed to gather in-depth qualitative data to capture the diverse experiences and perspectives of knowledge users. This approach aligns with the principles of participatory research, ensuring that the voices of those most affected by the interventions are heard and integrated into the research process (Headrick et al., 2023; Wiles et al., 2022). Data was collected through a series of focus groups to identify problems, desired outcomes, gaps, and barriers to the implementation of such intervention for people with CP. Key methodological components included the establishment of the CAP, the use of focus groups, and the application of reflexive thematic analysis.

Consumer Advisory Panel (CAP)

A CAP was established to involve knowledge users throughout the research process. The CAP members actively participated across the entire research lifecycle in three different stages of the research project (Study Plan, Data Analysis, and Dissemination) and their voices were integrated to increase the legitimacy and rationality of the decision-making (Frisch et al., 2020). The importance of a CAP lies in its ability to bring knowledge user perspectives and experiences to the research process from the outset, leading to higher acceptance and implementation of the outcomes (Black et al., 2018; Frisch et al., 2020). Furthermore, the CAP fosters a sense of ownership and empowerment among knowledge users, as they are directly involved in shaping the research that affects them (Black et al., 2018).

Reflexive Thematic Analysis

Reflexive Thematic Analysis (TA) was chosen for its flexibility and suitability for capturing the complexity of participants' experiences and meanings (Byrne, 2021). The approach is focused on the researcher's active role in knowledge generation, embracing the researcher's subjectivity as a resource for the analysis (Braun & Clarke, 2023; Byrne, 2021). Analysis was immersive and iterative using the six-phase process by Braun and Clarke, including: 1) data familiarisation; 2) systematic coding; 3) generating initial themes; 4) reviewing themes; 5) defining and naming themes; and 6) writing the report (Braun & Clarke, 2022, 2023). It is important to acknowledge that the six-phase process is a guideline, and it was applied in a systematic, yet flexible way (Byrne, 2021).

Reflexive TA is grounded in Big Q qualitative research, which involves both qualitative data and the values and practices embedded in a qualitative paradigm (Braun & Clarke, 2023). Unlike coding reliability approaches that emphasise consistency and objectivity, reflexive TA embraces subjectivity and the co-construction of meaning between researchers and participants (Braun & Clarke, 2023; Smith & McGannon, 2017). Therefore,

the analysis process included a Critical Friends approach (Smith & McGannon, 2017) and member reflexion (Braun & Clarke, 2023), where knowledge users provided feedback and challenged the researcher's interpretations to enhance the robustness of the findings (Byrne, 2021). This collaborative process helped ensure that the themes developed were well-grounded in the data and reflected the participants' perspectives.

Researcher positionality statement: In this research, the positionality of the primary investigator is central to the interpretation of qualitative data and the collaborative research process. The lead researcher, a physiotherapist with extensive experience in paediatric rehabilitation and social inclusion, particularly in implementing dance programs for children with disabilities, brought both professional and personal insights to the participatory process. This experience enabled the researcher to interpret participant experiences empathetically and with an understanding of barriers faced by children with disabilities. While valuable, this expertise could introduce biases rooted in professional perspectives on inclusive practice, potentially shaping interpretations towards positive expectations of inclusion. To enhance reflexivity and ensure diverse perspectives, the research incorporated a reflexive approach and continuous collaboration with members of the CAP and doctoral supervisory team. This collaborative and reflexive approach ensured that the findings authentically reflected participant voices and contributed towards the trustworthiness of research findings and implications for practice.

Critical Friends: In this phase, the CAP members provided critical feedback and challenged the researchers' interpretations to enhance the robustness and trustworthiness of the findings. This approach acknowledges the impossibility of eliminating researcher bias and aims to enhance the credibility and trustworthiness of the findings through critical dialogue and reflexive engagement (Smith & McGannon, 2017).

Member reflexive practice: Participants were invited to attend a second focus group or interview where they reflected on the revised themes and offered additional insights, shifting the focus from verification to the co-construction of knowledge. This process fostered a more ethical and participatory approach, acknowledging the participants' expertise and lived experiences (Braun & Clarke, 2023).

Overall, the methodological rigor and participatory approach of this study ensured that the developed dance approach was grounded in the real-world experiences and needs of children with CP and their families. By integrating the perspectives of knowledge users into the research process, this study provided critical insights that informed the subsequent phases of the doctoral research program and influenced the researcher perspective to understand the essence of inclusion and its impact on children and families.

Part Two: Practice Innovation – Co-designing a dance approach, the change in paradigmam.

Part Two of this doctoral research program was initially set out to design a specific ‘dance intervention’ for children with CP. However, the insights gained from Part One, particularly the perspectives and preferences of parents and knowledge users, revealed a different need. It became clear that parents sought inclusive activities within the broader community settings, rather than isolated interventions. To address this shift in focus, Part Two aimed to co-design and develop a comprehensive and inclusive dance approach guide. This guide was intended to equip dance teachers with practical tools and frameworks to foster inclusive dance environments in community-based classes, ensuring meaningful participation for children with CP. This transition to creating a sustainable, inclusive practice framework reflected the overarching goal of enhancing community participation and inclusion for children with CP.

Study Three: Co-designing Study.

The co-design phase aimed to create an inclusive dance approach for children with CP, engaging both knowledge users and researchers in a collaborative process. The Experience-Based Co-Design (EBCD) framework was adopted to facilitate this process, involving researchers, service users and providers working together to improve services through shared experiences and co-design (Pallesen et al., 2020; Raynor et al., 2020). The EBCD was chosen for its ability to bring together diverse stakeholders to collaboratively design solutions that reflect real-world experiences and priorities. This method has been shown to be effective in developing patient-centred interventions and improving service delivery (Raynor et al., 2020). The traditional EBCD process was adapted to fit the research context, ensuring that the voices of children with CP and their families were central to the design of the inclusive dance approach (Pallesen et al., 2020).

The workshops were developed based on the findings from the systematic review and focus groups conducted in Part One. These workshops provided the basis for knowledge users and researchers to collaboratively develop each chapter of the dance approach. This iterative process ensured that the guide was grounded in evidence and tailored to the needs and preferences of the participants (Pallesen et al., 2020). The key relationship with knowledge users, such as engagement plan, roles, duties, and expectations were developed prior to the study initiation using a Team Charter and the ***Family Engagement in Research (FER) Goals Setting tool*** (Manafo et al., 2018; Mendell & Richardson, 2021). The FER Goal Setting tool guided both researchers and families to carry out the research project (Zwicker et al., 2020).

The Team Charter was created before the workshops began, detailing the engagement plan and defining the roles and expectations of all participants. This charter helped establish a common understanding and commitment to the co-design process, fostering a collaborative

environment (Pozniak et al., 2022). Knowledge users were actively involved in the co-design process, with the opportunity to engage in co-design workshops through various way, some worked through synchronous meetings using Zoom, others collaborated asynchronously, dividing tasks up and reviewing the guide content through email, but most knowledge user research partners used both methods. This preliminary work ensured clarity and commitment from all participants, laying a strong foundation for effective collaboration.

The collaborative efforts of the co-design phase resulted in the development of a comprehensive inclusive dance approach guide tailored to the needs of children with CP. At the final workshop, knowledge user research partners recommended that the guide undergo review by dance teachers to evaluate its applicability in real-world settings. This step was to ensure that the guide would be practical, relevant, and effective in community contexts.

Co-design Extended Phase: Dance Teacher Reviewers

Finally, the evaluation of this complex program required suitable assessment methods to address the multiple levels of implementation (Crane et al., 2019). A pragmatic synthesis proposes a bottom-up approach, beginning with viability evaluation, followed by effectiveness evaluation in real-world settings to assess impact and generalisability, and concluding with efficacy evaluation to rigorously examine causal relationships with outcomes (Chen, 2016). Striving for data completeness requires a balance between feasibility or viability (Crane et al., 2019). Pragmatic evaluation was carried out to evaluate the viability of the co-developed guide, by assessing its suitability, affordability, practicality, and perceived helpfulness (Chen, 2016). This approach allowed knowledge users to assess the generalisation potential of the guide and make informed decisions regarding its application in their communities (Chen, 2016; Crane et al., 2019)**.**

Based on the taxonomy of implementation outcome by Proctor et al. (2011) this focus group looked into the appropriateness of the Inclusive Dance Approach Guide, to understand the

perceived fit; relevance; compatibility; suitability; usefulness; and practicability of the guide. To achieve these goals, the group employed a deductive approach and the questions below were developed based on Feinstein (1987)'s sensibility framework, assessing the tool in five domains: overall format (i.e., the tool is comprehensive and clear); purpose and framework (i.e., the tool has a clear rationale and is appropriate); face validity (i.e., tool is used in the way it was intended); content validity (i.e., the tool is relevant); and ease of usage (i.e., the time or effort required to use the tool is appropriate). Additionally, the questions were also informed by Bowen et al. (2009)'s feasibility study principles (Acceptability, Demand, Implementation, Practicality, and Adaptation).

Part One: State of the Evidence and Knowledge Users' Perspectives

In Chapter 1, this thesis discussed the paradigm shift in paediatric rehabilitation, emphasising the adoption of evidence-based, participation-focused practices aimed at creating more inclusive environments for children with cerebral palsy (CP) and supporting meaningful engagement and participation. Chapter 2 outlined the participatory approaches that promoted the active involvement of knowledge users throughout the study. Part One of this thesis consists of two chapters: Chapter 3 will present the findings of a systematic review and meta-analysis on dance interventions for individuals with CP, and Chapter 4 will detail the outcomes of a focus group study investigating the factors influencing the participation of children with CP in dance classes.

Chapter 3. Systematic review and meta-analysis of the literature on dance programs for people with Cerebral Palsy.

Preface

This chapter systematically reviewed and analysed the effectiveness of dance interventions for both children and adults with cerebral palsy at any level of the International Classification of Functioning, Disability, and Health (ICF) (WHO, 2001), but with specific focus on participation.

This chapter marks a significant milestone in the field, as the first systematic review and meta-analysis focusing on dance interventions for individuals with cerebral palsy published in English. It addresses a crucial gap in the literature by systematically mapping the effectiveness of dance interventions across all levels of the ICF, with a particular emphasis on participation. Additionally, this review used a novel method to further understand participation in dance programs, mapping studies to the two core components of participation (attendance and involvement) with the person-related concepts of activity competence, sense of self, and preferences using the fPRC framework.

This systematic review not only addresses aim 1 of the doctoral program, but also serves as a foundational piece of the co-design process of a novel dance intervention to increase participation of children with CP.

This chapter of the thesis has been published following peer review and the full citation is provided below:

Duarte Machado, E., Cole, M. H., Miller, L., McGuckian, T. B., & Wilson, P. H. (2024). The efficacy of dance interventions for the activity and participation of individuals with cerebral palsy - a systematic review and meta-analysis. *Disability and Rehabilitation, 46*(8), 1485–1501. https://doi.org/10.1080/09638288.2023.2200259

Abstract

Purpose: The aim of this review was to examine the efficacy of dance interventions for individuals with cerebral palsy (CP), measured at any level of the International Classification of Functioning, Disability and Health (ICF). **Methods:** A systematic review and meta-analysis was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). A comprehensive search of peer-reviewed articles was performed using six electronic databases. **Results:** Fourteen studies were included in this review, nine of which were also included in the meta-analysis. The meta-analyses yielded a large overall effect for cognitive, motor, and social-emotional function outcomes, with a high degree of heterogeneity between outcome effects, attributable to differences in study design. **Conclusion:** Although recent studies provide support for the acceptance and efficacy of dance interventions for people with CP, the systematic review revealed significant limitations in study design (only 2 randomised control trials). High-quality research that measures outcomes across all dimensions of the ICF, and particularly at the level of participation, are needed to improve the level of empirical support for dance-based interventions.

Keywords: Cerebral palsy; dance; art therapy; music and movement

Implications for rehabilitation

- Movement- and step-based dance practice for CP have a positive impact on walking/gait, balance/postural control, and range of motion (ROM).
- Dance programs should move beyond a traditional focus on body structure and function, placing participation at the forefront of the program.
- Rehabilitation professionals should consider forming partnerships with stakeholders, addressing their goals, experiences, and challenges, with dance as a feasible and important option for participation-based practice.

Introduction

Cerebral palsy (CP) is one of the most common physical disabilities in childhood, with an overall birth prevalence of approximately 2 per 1,000 live births globally (Stavsky et al., 2017), and a prevalence of 1 in 700 in Australia (Australian Cerebral Palsy Register, 2020). The postural and motor dysfunction associated with CP are commonly accompanied by cognitive, sensory, and behavioural impairments (Lopez-Ortiz et al., 2019). CP is caused by a non-progressive disturbance that occurs in the developing brain, during the pre/peri or post-neonatal period (Galea et al., 2019; Martins et al., 2016). Although the brain lesion is non-progressive, over time, secondary implications of motor impairments together with cognitive and behavioural problems can lead to children with CP becoming increasingly sedentary with reduced engagement and participation in physical, social, recreational, and cultural activities (Resch et al., 2020; Withers et al., 2019). Indeed, these children tend to have lower levels of participation in a narrower range of activities than typically developing children (Arakelyan et al., 2019), evident across a variety of settings, including at home, within the community, and at school (Kilgour et al., 2021; Resch et al., 2020).

Through the creation of safe and inclusive spaces, arts-based therapies like performing arts (drama, music, and dance), can play an important role in the lives and well-

being of people with CP (Edwards et al., 2020). Dance is a physical and art-based activity that has benefits across social, cultural, emotional, and physical domains (May et al., 2021). For people with a health condition such as CP, it also provides a unique opportunity for rehabilitation (Joung et al., 2020). Dance and movement to music requires the performer to prepare and execute a sequence of functional movements, a form of perceptual-motor coordination that can excite motor neurons and train neuromuscular activation patterns for rehabilitative benefits (Pitale & Bolte, 2020; Teixeira-Machado et al., 2019). Dance fosters neuroplasticity and provides insights into the neural systems responsible for integrating sensory and motor experiences (Teixeira-Machado et al., 2019).

The American Dance Therapy Association recommends that dance should be used as a movement therapy for children and adults (Stribling & Christy, 2017). Dance has been shown to enhance motor, cognitive and psychosocial functioning in a range of neurological conditions including Parkinson's disease, intellectual disability, autism spectrum disorder, Down syndrome, and cerebral palsy (May et al., 2021; Patterson et al., 2018; Prieto et al., 2020). By incorporating physical, cognitive and social domains into a single activity, dance can positively influence neuromusculoskeletal, cardiorespiratory, and sensorimotor functions in people with CP, as well as memory and aesthetic expression (Cherriere et al., 2020b). In addition, participation in community dance programs and public dance performances has been associated with positive development of self-confidence, self-image, self-esteem, and self-worth, along with increased participation in physical and social activities among people with CP (Joung et al., 2021; Swaine et al., 2020). These therapeutic benefits of dance span different aspects of health and education by engaging the participant in the process of creating and learning the performance (Joung et al., 2020; Menezes DeJesus & Teixeira-Machado, 2020).

The International Classification of Functioning, Disability and Health (ICF) (WHO, 2001) highlights the reciprocal relationships between the health condition (defined by its three core components of body structure and function, activity and participation), personal factors and environmental factors (Duckworth et al., 2020). Therefore, the framework is a multi-dimensional model that illustrates the bi-directional relationships among these different facets and how their interaction defines an individual's level of functioning (Imms et al., 2017; Noten et al., 2021). Through the lens of the ICF, many elements and attributes of the dance intervention have the potential to effect changes across all levels of the ICF (Duckworth et al., 2020; Lopez-Ortiz et al., 2012). For example, during the dance performance, people with CP are encouraged to take controlled risks by creating new movements, a process that supports: development of motor control and fitness (body function); motor skill development and self-directed choreography (activity & participation); and participation in the dance performance itself (activity & participation) (McGuire et al., 2019; Prieto et al., 2020).

Recent systematic reviews of the dance intervention literature suggest dance has positive effects on changes in body functions, such as mobility and transfer (Cherriere et al., 2020b; Lopez-Ortiz et al., 2019). However, there is an increasing awareness of the importance of participation on health and wellbeing and an increasing number of empirical studies demonstrating participation focused interventions improved body structure and function (Nyquist et al., 2020; Reedman et al., 2021b). To date dance interventions have primarily focused on body structure and function (Cherriere et al., 2020b; Lopez-Ortiz et al., 2019; May et al., 2021). Although the ICF includes contextual factors that influence Body Structure and Function (BS&F), it fails to fully capture the construct of participation (which includes both *attendance* and *involvement* aspects), and associated person-related factors like self-concept, self-efficacy and self-determination (Duckworth et al., 2020; Lopez-Ortiz et al.,

2019). To clearly understand the efficacy of dance interventions across all domains of the ICF particularly participation, the Family of Participation-Related Constructs (fPRC) framework will help to provide a broader understanding of participation and its related concepts, including, but not limited to activity competence, self-concept, self-efficacy, and social participation (Lopez-Ortiz et al., 2019; Nyquist et al., 2020).

The fPRC is an ecological framework that extends the notion of participation and the intrinsic and extrinsic factors that influence the life outcomes of people with a disability (Adair et al., 2015; Imms et al., 2017). In the fPRC, the two core components of participation are ***attendance***, which can be defined as being present at the activity and measured as frequency, and ***involvement***, which includes intrinsic elements such as the social connection, engagement and motivation of the individual, measured subjectively (Imms et al., 2017; Schlebusch et al., 2020). Indeed, to understand and measure the level of involvement, it is necessary to take into consideration the contextual element of the activity and the internal motivations of the individual (Kaelin et al., 2021). In the context of an intervention for someone with a disability like CP, participation in a community-based activity can be the *means* by which health and well-being outcomes are achieved (aka *participation as a means*). Alternately, interventions can also be designed and implemented in a more controlled clinical or educational setting but have as its objective an improvement in participation (aka *participation as an end*).

In an arts context, participation as a means can be a community-based program that results in long-term benefits for self-efficacy and self-competence (Duckworth et al., 2020). Participation in artistic activities, like dance, can provide a motivating and inclusive environment, with ongoing opportunities for creative expression (Lopez-Ortiz et al., 2019). For Schlebusch et al. (2020), participation can be investigated as an independent variable (as a process), or as an outcome (dependent variable). Therefore, to further understand the effects

of dance interventions on participation, the authors grouped the activity outcomes (basic motor skill) in the motor function subgroup and used the fPRC framework to provide a more specific understanding of participation and its intrinsic and extrinsic factors.

Furthermore, there is a lack of evidence supporting the potential suitability of dance as a therapeutic resource in relation to participation outcomes (Teixeira-Machado et al., 2017). Clinical trials and systematic reviews are needed to increase the understanding of the effects of dance intervention across the domains of the ICF and allow replication of the intervention in the heterogeneous clinical presentations of CP and diverse levels of GMFCS, MACS and CFCS (Beaudry et al., 2019; Owens & Silkwood-Sherer, 2019). The primary aim of the systematic review presented here was to examine the effectiveness of dance-related interventions reported in the literature for children and adults with cerebral palsy, measured at any level of the ICF, but with a focus on the core components of participation and person-related factors that influence participation.

Method

The protocol for this systematic review was developed a priori and registered with the International Prospective Register of Systematic Reviews - PROSPERO (Record ID: CRD42021246272) (Appendix B). The review was conducted according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021).

Search strategy

A systematic search of literature was conducted on January 18, 2023, using the following databases: CINAHL; Embase; PubMed; PsycInfo; Scopus; and Web of Science. Search terms were (“Cerebral Palsy”) AND (Danc* OR “Art Therapy” OR “Music and Movement”). One member of the research team (ED) performed the initial database search for potentially relevant papers, with search terms cross-checked with other members of the authorship team.

After the initial search, titles and abstracts of articles retrieved were exported to the Covidence Systematic Review Software (Veritas Health Innovation, Melbourne, Australia) (Babineau, 2014) to facilitate title/abstract and then full-text screening. The titles/abstracts and full texts were independently screened against the predefined inclusion and exclusion criteria by two reviewers: the lead author (ED) and one other member of the research team (PHW, MHC, LM, TBM). Any discrepancies related to the inclusion of studies were resolved through discussion, and if consensus was not reached, a third author provided adjudication. Full-text articles that met the criteria were retrieved and subjected to quality assessment and data extraction.

Inclusion and exclusion criteria

Studies were included if they met the following criteria: (1) full-text article, published in English, in a peer-reviewed journal; (2) any year of publication; (3) a dance intervention was evaluated; (4) participants had a formal diagnosis of CP, and were of any age or level of Gross Motor Function Classification System (GMFCS), symptom distribution (unilateral or bilateral) or motor subtype (spastic, dyskinetic or ataxic); (5) reported any outcome measures, including changes in body structure, body function, activities and participation, and psychosocial functioning for the people with CP participating in a dance intervention. Studies of dance interventions were excluded if no outcome measure was reported.

Quality appraisal

The methodological reporting quality of full-text papers was assessed by the primary author (ED) using a 16-item modified version of the Critical Appraisal Skills Programme (CASP) that captured case-control, cohort, and randomised controlled trials (Lopez-Ortiz et al., 2019). The CASP checklists do not recommend a scoring system, therefore, the risk of bias for each of the 16 individual items was assessed on each quality as: (i) ‘Low’ indicating the item was clearly described; (ii) ‘High’ indicating the item was not clearly reported; and (iii) ‘Unclear’

if insufficient information was provided to determine the quality of the study (Lopez-Ortiz et al., 2019). To allow for the inclusion of case studies, the Joanna Briggs Institute (JBI) Appraisal Checklist for Case Reports (Moola et al., 2017) was used to assess the methodological quality of each of the eight items as (i) 'Yes' indicating that the item was described, (ii) 'No' when the item was not reported, and (iii) 'Unclear' if insufficient information was provided (Hickey et al., 2022). Items that were not applicable to the study being appraised, were identified as "not applicable".

Outcome measures and subgroups

For the meta-analysis outcome measures were entered into five subgroups: (i) cognitive function, (ii) motor function, (iii) social and emotional function, (iv) engagement, and (v) metabolism.

Cognitive functions subgroup concerns to cognitive operations that are necessary to perform tasks of varying complexity (Koch et al., 2019; May et al., 2021), and include executive functions (working memory, inhibition and executive attention), as well as higher-order planning and organisation skills (rhythmic reproduction), sustained attention, and learning (Cherriere et al., 2020a; Lakes et al., 2019; Teixeira-Machado et al., 2017).

Motor function subgroup captures changes in balance (i.e., dynamic and static balance); postural control (e.g., deviations in centre of force (COF), limits of stability (LOS); motor control; gait; strength; and range of motion (ROM) (Cherriere et al., 2020a; Joung et al., 2020; Joung et al., 2021; Lakes et al., 2019; Lopez-Ortiz et al., 2016; Teixeira-Machado & DeSantana, 2019). Due to the limited number of studies and small sample sizes the activity outcomes (basic motor skill), such as mobility and transfer and self-care, were grouped in the motor function subgroup (Cherriere et al., 2020a; Joung et al., 2020; Teixeira-Machado et al., 2017)

The social and emotional function subgroup includes (i) body image (awareness of

identity moderator); (ii) social/interpersonal factors (e.g., social problems; relationship issues); (ii) psychological factors (like anxiety, somatic complaints, and depression), and (iii) behavioural difficulties (e.g., aggression, internalizing problems, etc.) (Joung et al., 2020; Teixeira-Machado et al., 2017; Withers et al., 2019).

Participation outcomes, as dependent variables, such as sport and physical activity outcomes, community activities, household responsibilities and day-to-day work/school, were listed under the subgroup and moderator "Engagement" (Lakes et al., 2019; Teixeira-Machado et al., 2017; Withers et al., 2019).

The metabolism subgroup clustered changes in body weight, aerobic fitness, haematological functions, and metabolic functions (Terada et al., 2017; Terada et al., 2018).

Data extraction

A customised data extraction tool using an ExcelTM (MicroSoft Inc.) worksheet was designed for data extraction. Data were extracted by the first author (ED) and included: participant characteristics (age, CP subtype, and GMFCS level); details of the intervention (dance style, intervention protocol, number of training sessions, number of hours in intervention); type of outcome measured; measurement tools; and the study outcomes, when available, means, standard deviations (SD) and sample sizes were extracted, for pre- and post-interventions.

Furthermore, outcomes measured were mapped across the domains of ICF, by the first author (ED). The linking process involved assigning codes of the ICF domains of "Body Structure and Function" and "Activities and Participation", and any discrepancies related to the coding were resolved through discussion with one other member of the research team (PHW, MHC, LM, TBM), if consensus was not reached, a third author provided adjudication.

Family of Participation-Related Constructs (fPRC)

In addition to mapping outcomes across the domains of the ICF, to further understand participation in dance programs, the two core components of participation (attendance and involvement) were extracted together with the related person-related concepts of activity competence, sense of self, and preferences using the fPRC framework (Adair et al., 2015; Imms et al., 2017).

Statistical analysis

Study analyses were conducted using R version 4.0.5 (Team, 2021). Standard error (SE) values were converted to SD, where necessary (Lüdecke, 2019). Hedges' g effect sizes were used to quantify the magnitude of the difference between groups, calculated on the basis of pre-post changes in mean and SD using the 'esc' package (Lüdecke, 2019). The pre-post changes in SD were imputed, with a correlation coefficient 0.5 used when this data was not reported (Higgins et al., 2019). For studies where mean and SD were not reported, effect size was estimated using the pre-post change p-value and sample size, calculated by the 'compute.es' package (Del Re A Compute, 2013). Effect sizes were calculated such that positive values indicated better performance post intervention.

Multi-level random-effects meta-analysis, which is preferred when multiple effect sizes are drawn from individual studies, was performed using the 'metafor' package (Viechtbauer, 2010). This approach allows inclusion of each individual effect size in the calculation of aggregate measures while accounting for the non-independence of effect sizes (Baker & Reiss, 2016; Subara-Zukic et al., 2022). The multi-level approach also provides estimates of heterogeneity within comparison effect sizes (i.e. level 2), and between studies (i.e. level 3) (Baker & Reiss, 2016). Heterogeneity was evaluated with the I2 statistic, with greater than 75% representing considerable heterogeneity (Downs et al., 2018; Subara-Zukic et al., 2022; van Houdt et al., 2019). The 'dmetar' package was used to calculate I2 (Harrer et

al., 2021). The Hartung-Knapp-Sidik-Jonkman method was applied to estimate variance of pooled effects as it outperforms other methods when there are few studies or substantial heterogeneity (Hartung & Knapp, 2001; IntHout et al., 2014).

To compare the effectiveness of the dance interventions on all outcomes, each outcome measure was entered as a moderator. A separate subgroup meta-analyses were run for cognitive/mental function, motor function, social and emotional function. The magnitude of each combined estimate was interpreted according to Cohen (1988). Furthermore, 95% confidence intervals (*CI*) were derived for all combined effects sizes to determine significance, which was indicated when the *CI* did not cross zero (Martins et al., 2016; Subara-Zukic et al., 2022).

Moderator analysis

To explore high heterogeneity and to provide more detailed recommendations for dance programs, moderator analyses were run, including such factors as study design, study sample size, participant ability to ambulate, intervention dose, intervention intensity, and dance type.

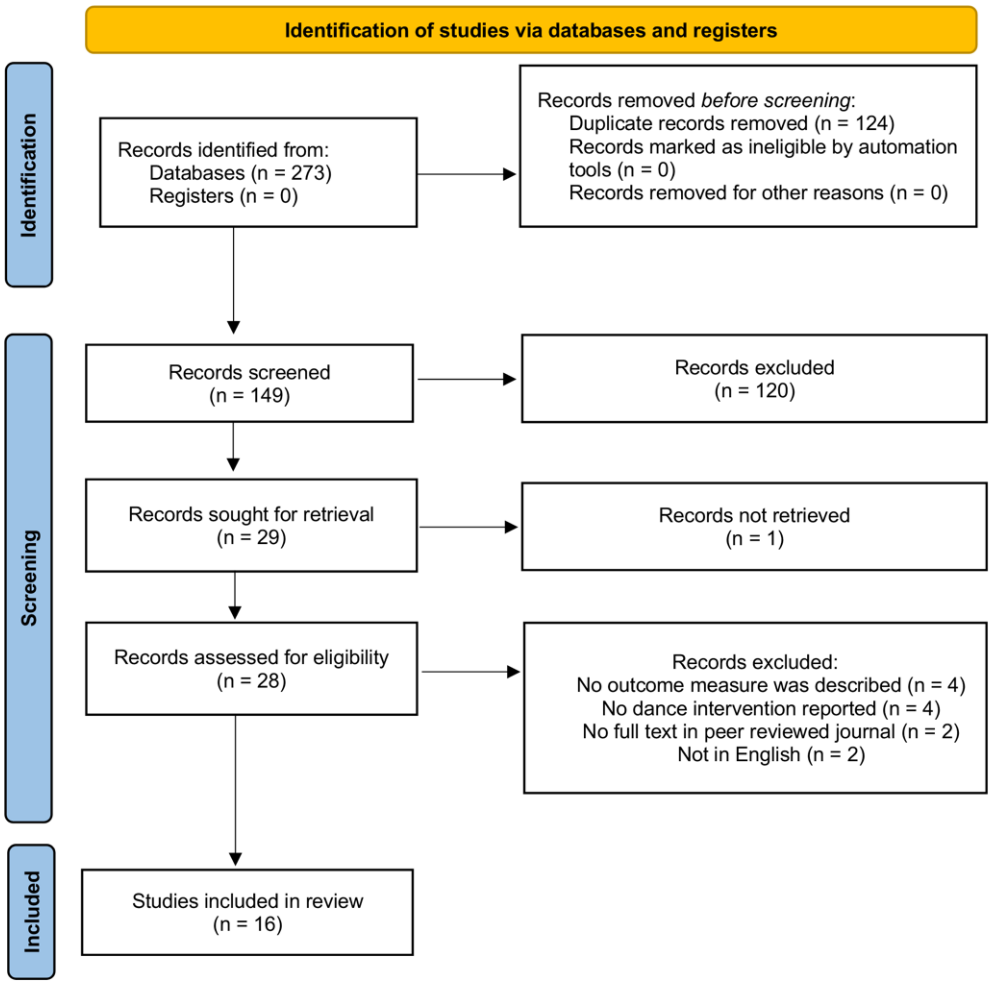
Intervention dose was calculated as the total duration of dance interventions in minutes. Intervention intensity was calculated as the minutes of dance interventions per week. Dance types were based on two broader dance classifications: (1) Movement-based dance styles focused on spontaneous and self-willed movements impacting the exploration and transformation of the sense of self, and (2) Step-based dance including dance styles with specific pre-planned steps and techniques (Gibbons, 2007; Schmalzl et al., 2014; Valverde-Guijarro et al., 2022).

Results

Search results

A total of 273 potentially relevant articles were identified from the search strategy. After duplicates (n = 124) were removed, the titles and abstracts of 149 articles were screened for

eligibility. Of these articles, 29 met inclusion criteria based on title and abstract, one record could not be retrieved and 28 were retrieved for full-text review. Twelve articles were excluded for the following reasons: no outcome measure was described (n= 4); written in a language other than English (n=2); full text was not available in a peer-reviewed journal (n= 2); no dance intervention was included (n = 4). The search results and screening process are (Figure 6):



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

Figure 6. PRISMA flow diagram.

Characteristics of included studies

The included 16 studies were published between 1989 and 2022. Six studies were conducted in the USA (Lakes et al., 2019; Lasseter et al., 1989; Lopez-Ortiz et al., 2016; Lopez-Ortiz et al., 2012; Owens & Silkwood-Sherer, 2019; Stribling & Christy, 2017), three in Brazil (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019; Withers et al., 2019), two in Japan (Terada et al., 2017; Terada et al., 2018) and Korea (Joung et al., 2020; Joung et al., 2021), and one each from Spain (Pascual et al., 2015), Ukraine (Korobko et al., 2022), and Canada (Cherriere et al., 2020a). Study design varied and included 4 case studies (Lasseter et al., 1989; Owens & Silkwood-Sherer, 2019; Pascual et al., 2015; Stribling & Christy, 2017), 7 pre- and post-intervention designs (Cherriere et al., 2020a; Joung et al., 2020; Joung et al., 2021; Korobko et al., 2022; Lakes et al., 2019; Terada et al., 2017; Terada et al., 2018), 3 pilot studies (of which two were clinical trials; one exploratory) (Lopez-Ortiz et al., 2016; Lopez-Ortiz et al., 2012; Withers et al., 2019), and 2 RCTs (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019).

Level and quality of evidence

The methodological quality scores of the articles reviewed are displayed in Figures 7 and 8. Of the 16 included studies, 12 were assessed using the modified CASP scale (Figure 7) and four used the JBI Appraisal Checklist for Case Reports (Figure 8). Seven studies did not adequately control for confounding factors: three studies ensured random allocation of participants (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019), however, one did not provide sufficient information to determine how random allocation occurred (Lopez-Ortiz et al., 2016). Lakes et al. (2019) used regression models, due to the lack of an available control group, and Cherriere et al. (2020a) considered the heterogeneity of the sample and the absence of a control group by using the tip pinch strength task as a control measure and a double baseline.

Majority of the studies were shown to have weak methodological reporting quality. While many studies reported small sample size as a weakness, only two studies clearly reported a power calculation (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019). The studies with the lowest risk of bias were the two conducted by Teixeira-Machado (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019), which were both RCTs. However, only one of these studies reported assessor blinding (Teixeira-Machado & DeSantana, 2019). The studies by Lopez-Ortiz et al. (2012) and Korobko et al. (2022) presented the highest risk of bias, although those were exploratory and observational study designs, for Lopez-Ortiz et al. (2012) the qualitative nature of the interview and the lack of follow up were weaknesses for the study. Group data analysis was presented in 10 studies, and adequate for meta-analysis. Only one of the pilot studies did not report pre-post outcomes addressing the effect of the dance intervention (Lopez-Ortiz et al., 2012).

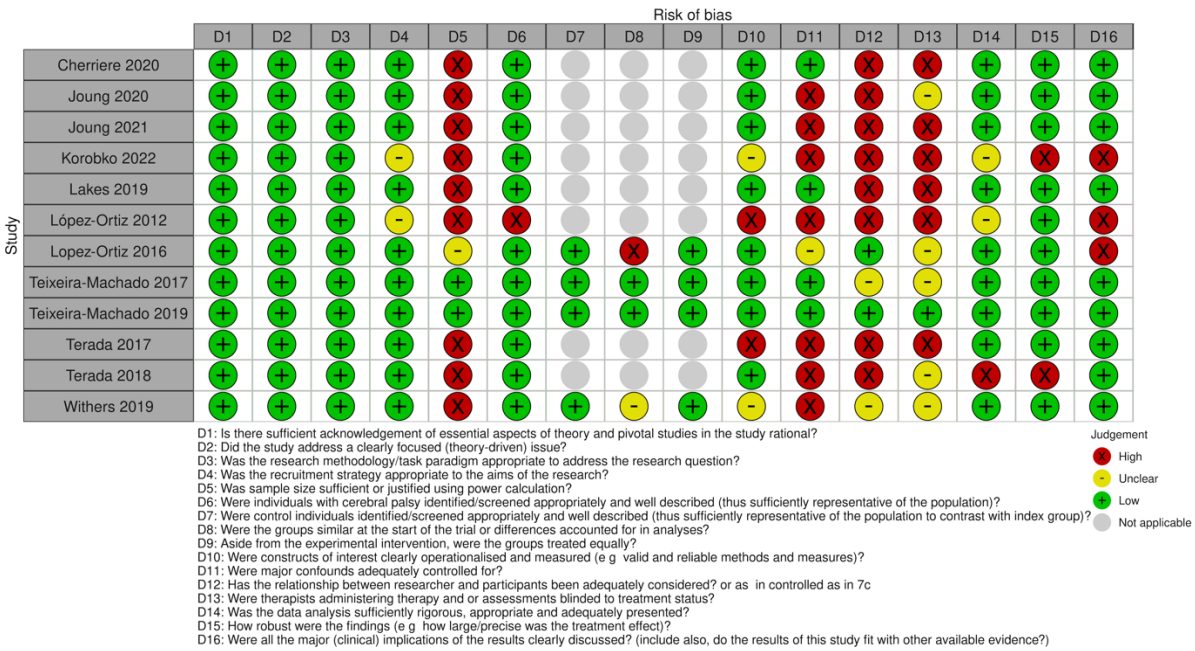


Figure 7. Methodological quality assessment of case-control, pilots, and randomised controlled trials on dance intervention for people with CP using the Modified CASP scale.

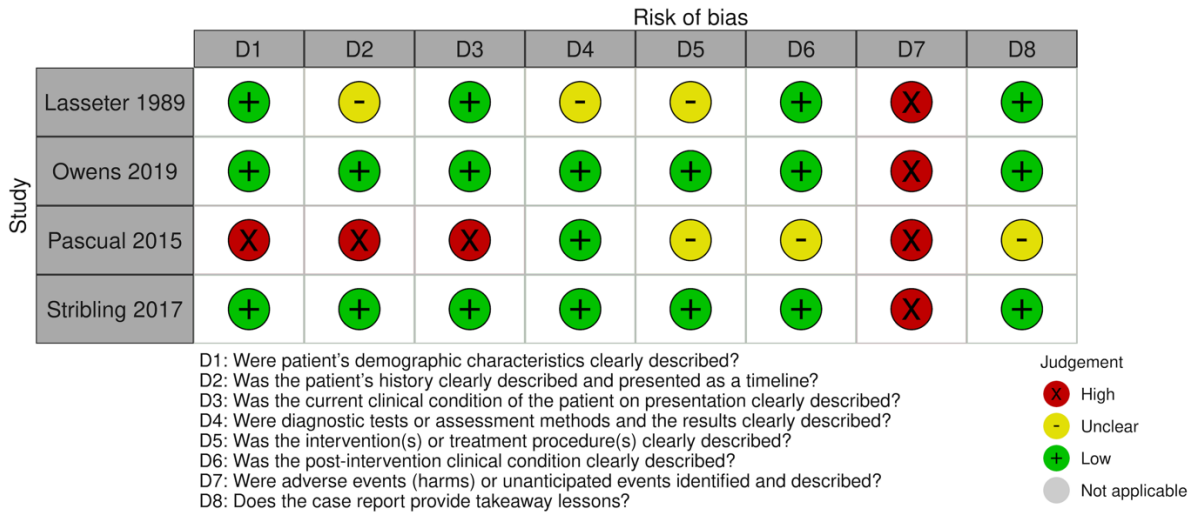


Figure 8. Methodological quality assessment of case studies on dance intervention for people with CP using the JBI Critical Appraisal Checklist for Case Reports.

Four studies were case studies, assessed using the JBI Appraisal Checklist for Case Reports. All four studies did not identify possible adverse or unanticipated events for the dance intervention. Stribling and Christy (2017) and Owens and Silkwood-Sherer (2019) presented the lowest risk of bias. In contrast, the study by Pascual et al. (2015), presented the highest risk of bias amongst the case studies.

Participant characteristics

The demographics and levels of severity of the participants in each study are shown in Table 2. In total, 147 participants were included, ranging from 1 to 27 participants per study. Three studies included adults with CP, three included adolescents and adults, and nine included children and youths with CP. The age of the participants varied, with the mean age for the dance groups ranging from 12 years 9 months to 54 years old. Only one study did not report the age range of the participants (Lopez-Ortiz et al., 2012). The level of motor function was assessed in participants using the GMFCS (ranging from I to V) in 81.25% of the studies, however, three did not report the GMFCS level for their participants (Lakes et al., 2019; Lasseter et al., 1989; Pascual et al., 2015). The participants' motor subtypes also varied across studies and included spastic to ataxic and dyskinetic CP. Reported distributions

included diplegia, hemiplegia to quadriplegia. The paper by Lopez-Ortiz et al. (2012) reported 16 children with GMFCS level ranging from I to V but did not detail the level of motor function of each participant. Eight studies only had participants that were able to walk (GMFCS Level I and II), and six studies included people with CP who were able to ambulate and people who needed a mobility device/wheelchair. Two studies only included participants transported in wheelchair in all settings (GMFCS Level V) (Terada et al., 2017; Terada et al., 2018).

Dance intervention and outcome measures

The range of dance interventions and protocol descriptions are also reported in Table 2. Although most studies involved interdisciplinary research teams, only six reported the dance intervention being carried out by people experienced in teaching dance intervention (Cherriere et al., 2020a; Joung et al., 2020; Joung et al., 2021; Lakes et al., 2019; Stribling & Christy, 2017; Withers et al., 2019). Nine studies conducted the dance intervention in community settings, four in dance studios (Lakes et al., 2019; Pascual et al., 2015; Stribling & Christy, 2017; Teixeira-Machado et al., 2017), and five in community centres, school gymnasiums or halls (Lopez-Ortiz et al., 2016; Terada et al., 2017; Terada et al., 2018; Withers et al., 2019). The intervention frequency varied from at least 6 to 15 minutes twice weekly, to one 2-hours session twice weekly (Joung et al., 2020; Terada et al., 2017; Terada et al., 2018). The minimal total dose of intervention reported was 720 minutes, and the maximal dose reported was 2880 minutes (Joung et al., 2020; Lopez-Ortiz et al., 2016). Five studies did not report the total dose of their intervention (Korobko et al., 2022; Lopez-Ortiz et al., 2012; Pascual et al., 2015; Terada et al., 2017; Terada et al., 2018). Nine studies reported holding a dance performance or presentation following the intervention period (Cherriere et al., 2020a; Joung et al., 2020; Joung et al., 2021; Korobko et al., 2022; Lasseter et al., 1989; Lopez-Ortiz et al., 2016; Lopez-Ortiz et al., 2012; Teixeira-Machado & DeSantana, 2019;

Withers et al., 2019).

Creative dance (CD), ballet training, informal dance, and hip-hop were among the dance styles used for the interventions. Joung et al. (2020)described the CD intervention framework used for people with CP who were able to walk, with detailed description of each stage (Play, Move and Dance), to support replication of the intervention. Teixeira-Machado and DeSantana (2019) developed a dance protocol called *Técnica Aplicada Lavinia Teixeira* [TALT], based on Feldenkrais, Horton, Graham, and Laban/Bartenieff concepts. Their protocol followed four sets with eight repetitions for each procedure: (1) global range of motion; (2) motor coordination; (3) body image and environment; (4) skill and agility, however, the authors did not describe how the intervention would be implemented for participants who were ambulant versus those in a wheelchair. Both of the approaches above have similar characteristics, incorporate self-awareness, self-control, body-awareness, and the active application of the will to the processes of growth, following the principles of movement-based practice (Joung et al., 2020; Joung et al., 2021; Schmalzl et al., 2014; Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019). Lopez-Ortiz et al. (2016) developed a dance protocol based on classical ballet, the Targeted Dance Class (TDC). Six studies described their dance intervention as including the following components: a warm-up, dance practice/choreography composition/rehearsal, and a cool-down (Cherriere et al., 2020a; Korobko et al., 2022; Lakes et al., 2019; Lasseter et al., 1989; Owens & Silkwood-Sherer, 2019; Withers et al., 2019). Three studies did not report the dance protocol used (Pascual et al., 2015; Terada et al., 2017; Terada et al., 2018).

All reported outcomes were linked to ICF codes (Table 2). The most investigated outcomes were changes in mobility (Cherriere et al., 2020a; Joung et al., 2020; Joung et al., 2021; Korobko et al., 2022; Lakes et al., 2019; Owens & Silkwood-Sherer, 2019; Teixeira-Machado et al., 2017; Withers et al., 2019), followed by balance (Cherriere et al., 2020a;

Joung et al., 2021; Lopez-Ortiz et al., 2016; Owens & Silkwood-Sherer, 2019; Stribling & Christy, 2017), range of motion (ROM) (Joung et al., 2020; Pascual et al., 2015; Teixeira-Machado & DeSantana, 2019), and changes in metabolism (cardiovascular, haematological and metabolic) (Lakes et al., 2019; Owens & Silkwood-Sherer, 2019; Terada et al., 2017; Terada et al., 2018). For Withers et al. (2019) and Teixeira-Machado et al. (2017) participants presented improved mobility. Joung et al. (2020) reported statistically significant changes in spatiotemporal gait ($p<0.05$), while Lakes et al. (2019) reported a change in gait pattern between pre, post and follow-up assessments ($p<0.05$). Statistically significant improvements in balance ($p<0.05$) were reported in two studies using the Pediatric Balance Scale (PBS) (Cherriere et al., 2020a; Lopez-Ortiz et al., 2016) and one using the Berg Balance Scale (BBS) (Joung et al., 2021). Joung et al. (2020) and Teixeira-Machado and DeSantana (2019) also observed positive changes in hip and ankle range of motion (ROM), $p<0.05$. Only three studies addressed cognitive/mental function (Cherriere et al., 2020a; Teixeira-Machado et al., 2017; Withers et al., 2019), and emotional expression outcomes (Joung et al., 2020; Lasseter et al., 1989; Withers et al., 2019). Of those, Cherriere et al. (2020a) reported no statistically significant change for sustained and divided attention, and the case study by Lasseter et al. (1989) presented no formal analyses for changes in self-concept and self-esteem.

Table 2 Summary of studies characteristics and proposed ICF codes

References	Study design	Participants	Dance group size	Dance style	Description of the dance protocol	Dance performance	Intervention Frequency	Intervention Total Sessions	Total dose of intervention (min)	Outcomes	Evaluation methods	Results	ICF (proposed code)
Cherriere et al. (2020a)	Pre-post	CP; GMFCS I - III; mean age 14y 1mo; n= 10	10	Contemporary, jazz, break dance, and tap	10-mins warm-up Dance practice 5-mins cool-down	Dance performance presented to the families and members of the rehabilitation centre	60 mins sessions/ two times per week	20	1200	Balance	Pediatric Balance Scale (PBS)	Improved balance (PBS static and dynamic sub-score and PBS total score, $p<0.05$).	d4103-d4106, d4153, d4154, d4200, d4452
										Static balance	Force platform: Max amplitude and speed of the centre of force displacements.	No significant changed observed on centre of force amplitude and speed, for static balance test.	b755, b760
										Limits of stability	Pediatric Reach Test (PRT)	Improved maximal reach position and displacement of centre of force, $p<0.05$.	d4106, d4452
										Gait	10-metre walking test (10MWT)	No significant changed found on walking test.	b770
										Rhythmic reproduction	21 Rhythmic structures reproduction	Significant improvement on rhythm reproduction, $p<0.05$.	b176
										Attention	Test of Everyday Attention for Children: Score! and Score DT	No significant change on the two attention scores.	b1400-b403
Joung et al. (2020)	Pre-post	CP; GMFCS I - II; mean age 18y 5mo; n= 10	10	Creative Dance (CD)	Divided in three stages: *Play* stage *Move* stage *Dance* stage	Dance performance at the Bundang Hospital	120 mins sessions/ two times per week	24	2880	Gait	10-camera Vicon Motion Analysis System	Changes in spatiotemporal gait parameters (opposite foot off, first double limb support time, single limb support time, step length, cadence, and walking speed, $p<0.05$).	b770, b710
										Lower limb Range of Motion (ROM)	Pelvis, Knee, and Ankle ROM in sagittal plane using 16-marker arrangement.	Increase in right hip and ankle ROM, $p<0.05$.	b7100
										Gross Motor Function	GMFM-88: D (standing) and E (walking, running, and jumping).	Positive changes on dimension D and E, $p<0.05$.	d410-d429, d4302, d4351, d451, d455
										Body Image	Body Cathexis Scale (BCS)	Improved BCS score, $p=0.005$.	b1801

Table 2 Continued

References	Study design	Participants	Dance group size	Dance style	Description of the dance protocol	Dance performance	Intervention Frequency	Intervention Total Sessions	Total dose of intervention (min)	Outcomes	Evaluation methods	Results	ICF (proposed code)
Joung et al. (2021)	Pre-post	CP; GMFCS I - II; 30-54y; n=10	10	Creative Dance (CD)	Divided in three stages: *Sensory awareness (static)* *Dynamic sequential movement (dynamic)* *Create a dance piece (static motions + dynamic sequential movement patterns)*	Performance on an open stage at the Bundang Hospital	90 mins sessions/ two times per week	24	2160	Balance	Berg Balance Scale (BBS)	Improved BBS score on pre-post-, and at 3 months follow-up ($p<0.005$)	b755, b760, d4103, d4104, d4105, d4106, d4452
											Activities-specific Balance Confidence Scale (K-ABC)	Significant improvements on K-ABC after intervention ($p<0.008$) and at the 3 months follow-up ($p<0.008$).	d4105, d4106, d4452, d4502, d4551, d460
										Static balance	Gaitview AFA-50 (CoP EO and EC)	Improved CoP-EO $p<0.047$ (pre- post-) and $p<0.022$ (follow-up). No significant difference on CoP-EC.	b755, b760
										Gait	Time up and go (TUG)	Improved gait (TUG pre- post- $p<0.037$), and at the 3 months follow-up ($p<0.015$).	b770, d4103, d4104
											Dynamic Gait Index (DGI)	Improved DGI (pre- post- $p<0.005$), and at the three-month follow-up ($p<0.007$).	b770, d4551, d450, d455
										ADL's	Modified Barthel index (K-MBI)	There was no significant difference in K-MBI score.	b144, b147, b760, d159, d369, d450, d455, d510-d550
Korobko et al. (2022)	Pre-post (Pedagogical observation)	CP; GMFCS III-IV; Spastic tetraparesis; 12-14y; n= 5	5	Creative Dance (CD)	Included Physical and Social vectors in three stages: *Initial – learning movements of dance and acquaintance with the music* *Basic – profound study of dance elements, their combination with music* *Final – consolidation and improvement of dance performance.*	Participation of the dance group in the cultural events of the school and the town.	30-40 mins sessions/ two times per week.	Not reported	Not reported	ICF Structures and functions	GMFCS; MACS; Modified Ashworth scale	No changes in pre- post-assessments.	b147, b735, b755, b760, d440, d450
										ICF Activity and participation	Observation	Increased engagement in community activities. Two participants reported improved fine hand use.	d440, d550, d560, d710, d920
										ICF Environmental factors	Observation	Improved independent mobility within the classroom and buildings.	d460, d465, e120
										Emotional sphere	Survey	Increased interest in self-care, self-confidence, sense of community, and diligence	d177, d350, d520, d710, d750
										Hand Function	The Box and Block Test	Improved hand and arm function.	d440, d445
										Mobility	10 metre walking test (10MWT)	Improved mobility using the wheelchair and walkers.	d465

Table 2 Continued

References	Study design	Participants	Dance group size	Dance style	Description of the dance protocol	Dance performance	Intervention Frequency	Intervention Total Sessions	Total dose of intervention (min)	Outcomes	Evaluation methods	Results	ICF (proposed code)
Lakes et al. (2019)	Pre-post	CP; spastic; Diplegic and hemiplegic; 9-14y; n= 8	8	Therapeutic ballet intervention	Typical ballet classes including warm-up, stretching, barre exercises, and centre floor exercises with reverence to finish each class.	Class demonstration for parents and members of the community	60 mins sessions/ three times per week	18	1080	Body composition	Dual X-ray Absorptiometry (DXA)	No significant change on percent body fat or bone density.	s7700
										Muscle strength	Jamar handgrip dynamometer	No significant change, four participants showed a trend to improve hand grip.	b7300
										Habitual physical activity	Activity monitors (min/day)	No significant change on habitual physical activity after the intervention.	d2303
										Gait	GAITRite system	Significant change in pre, post and follow up, $p<0.05$.	b770, b710
										Motor control functions	Selective Control Assessment of Lower extremity (SCALE)	No significant changes in selective control, however, changes were noticed in individual participants.	b760, b470
										Executive functioning	Hearts and Flowers Tasks	Significant changes accuracy, response time, $p<0.05$.	b1400, b1401, b1443, d160, d220
Lasseter et al. (1989)	Case Study	CP; age 12y; n= 1	1	Not reported	Relaxation and warm-up Review of previously skilled learned Performance rehearsal	Performed two varied routines to parents, therapist, and clinic employees	60 mins sessions/ two times per week	18	1080	Motor Proficiency	Saretzky Test of Motor Proficiency	Increase of 12 credited months in motor proficiency.	d440, d445, d450, d4552
										Self-Concept	Self-Concept Inventory	No difference between pre and post-test.	b1800, b1801
										Self-Esteem	Coopersmith Self-Esteem Inventory	Coopersmith suggest positive change in feelings about self, school, and social situations.	b1800, b1801
Lopez-Ortiz et al. (2012)	Pilot Exploratory study	CP; GMFCS I – IV; n= 16; Parents; n=16; Therapists; n=13	16	Classical ballet training	Classical ballet exercises - conditioning exercises with progressive level of difficulty	Eight children performed in a formal recital.	Once a week	5 - 8	Not reported	Participants perceptions on the therapeutic benefit of the dance program	Surveys based on the LIFE-H (questions created to investigate specific aspects of the dance class).	The children expressed desire for more classes, enjoyment, interest in participation in a school group, interest watching a dance show, new interest in attending an art show, $p<0.05$.	d135, d155, d835, d9100, d9202
Lopez-Ortiz et al. (2016)	Case Control	CP; GMFCS II - IV; 7-15y; n= 11	5	Targeted dance class (TDC)	Principles of classical ballet for postural control, trunk stabilization, balance, and movement control of individual joints.	Dance class presentation at the school theatre.	60 mins sessions/ three times per week	12	720	Balance	Pediatric Balance Scale (PBS)	Improved balance pre- post-, and at one-month follow-up $p<0.05$. The same was not observed with control group.	d4103-d4106, d4153, d4154, d4200, d4452
										Upper body function	Quality of Upper Extremity Skill Test (QUEST)	QUEST did not show statistical differences in either group.	d440, d445

Table 2 Continued

References	Study design	Participants	Dance group size	Dance style	Description of the dance protocol	Dance performance	Intervention Frequency	Intervention Total Sessions	Total dose of intervention (min)	Outcomes	Evaluation methods	Results	ICF (proposed code)
Owens and Silkwood-Sherer (2019)	Case Study	CP; GMFCS II spastic; quadriplegic age 15y; n= 1	1	Informal Dance Intervention (IDI)	10 min warm-up 45 min IDI 5 min cool-down	Not reported	60 mins sessions/ two times per week	32	1920	Weight classification	BMI & Waist Circumference	BMI did not change. Waist circumference decreased 0.5 inches.	b530
										Gait	6MWT	Distance walked and walking speed improved.	d4501
											Functional Gait Assessment (FGA)	An 8-point increase on FGA.	b770, d4551, d450, d455
											Time Up and Down Stairs (TUDS)	TUDS improved by 4.14 seconds.	b770, d4103, d4104, d4551
										Balance	Activities-specific Balance Confidence (ABC)	Self-confidence ratings improved.	d4105, d4106, d4452, d4502, d4551, d460
											Community Balance and Mobility Scale (CB&M)	There was a 2-point decrease on CB&M score.	d4101, d4106, d4500, d4551-d4553
Pascual et al. (2015)	Case Study	CP; age 12y; n= 1	1	Ballet session	Not reported	Not reported	Weekly	Not reported	Not reported	Full port de bras forward (ROM)	Photogrammetry	Positive impact in ROM reported.	b710
Stribling and Christy (2017)	Case Study	CP; GMFCS II spastic; triplegic age 11y; n= 1	1	Creative Dance (CD)	Creative dance methods and the BrainDance movement sequences. Each dance class started in supine with a series of movements on the floor, followed by standing exercises.	Choreographed performance for CD's friends and family.	60 mins sessions/ two times per week	16	960	Postural Control	Sensory organization test (SOT)	Better centre of gravity alignment.	b755, b760
											Limits of stability test (LOS)	Better centre of pressure control.	
										Balance	Motor control test (MCT)	Average reaction time improved, more symmetric use of lower limbs.	b755, b760, d4106
											Adaptation test (ADT)	Able to complete the test after intervention.	
Teixeira-Machado et al. (2017)	Randomized Controlled Trial	CP; GMFCS II - V; age 15-29y; n= 26	13	Based on Feldenkrais, Horton, Graham, and Laban/Bartenieff concepts	Four sets with eight repetitions: (1) ROM (2) coordination (3) body image and environment (4) skill and agility	Not reported	60 mins sessions/ two times per week	24	1440	ADL's	Functional independence measure (FIM)	Improved independence function, p=0.004. Greater improvements when compared with control group, p<0.05.	b144, b147, b760, d159, d369, d450, d455, d510-d550
										ICF body function, activity and participation domains	WHODAS	Improved WHODAS p=0.001. Greater improvements when compared with control group, p=0.0002.	d159, d415, d450, d455, d649, d779-d799, d910

Table 2 Continued

References	Study design	Participants	Dance group size	Dance style	Description of the dance protocol	Dance performance	Intervention Frequency	Intervention Total Sessions	Total dose of intervention (min)	Outcomes	Evaluation methods	Results	ICF (proposed code)
Teixeira-Machado and DeSantana (2019)	Randomized Controlled Trial	CP; GMFCS III - V; age 15-29y; n= 27	13	Técnica Aplicada Lavinia Teixeira [TALT]	Four sets with eight repetitions: (1) ROM (2) coordination (3) body image and environment (4) skill and agility	Dance school show in the theatre	60 mins sessions/ two times per week	24	1440	Lower body Range of Motion (ROM)	Sanny® pendular fleximeter	Improved ROM in all axes $p<0.05$. Intergroup comparison, DG showed improvement in all axes of motion, except for hip left flexion (with knee extended) and hip right extension.	b7100
Terada et al. (2017)	Pre-post	CP; GMFCS V; mean age 50y 7mo; n= 6	6	Wheelchair dance (Waltz and Jive)	Not reported	Not reported	6-15 mins sessions/ two times per week or more	Not reported	Not reported	Oxygen pulse (O_2P)	VO2 divided by HR	O_2P during waltz significantly increased compared with rest at 6 months of intervention ($p=0.026$) and 12 months ($p<0.001$) O_2P during jive significantly increased compared with rest at 3, 6 and 12 months of intervention ($p=0.001$; $p=0.026$; $p=0.003$).	b4301, b4551
Terada et al. (2018)	Pre-post	CP; GMFCS V; mean age 50y 7mo; n= 6	6	Wheelchair dance (Waltz and Jive)	Not reported	Not reported	6-15 mins sessions/ two times per week or more	Not reported	Not reported	Albumin (Alb) & Haemoglobin (Hb)	Medical check-up records	No statically significance changes within normal range	b430
										Body weight	Weight scale for lying patients	No statically significance changes	b530
										Body mass	Body Mass Index (BMI)	No statically significance changes	b530
										Estimated energy consumption	Oxygen uptake (VO2) data	No statically significance changes	b540
										Estimated calorie consumption	Oxygen uptake (VO2) data	No statically significance changes	b540
Withers et al. (2019)	Case Control	CP; GMFCS I - II; Diplegic and hemiplegic; mean age 12y 9mo; n= 18	9	Adapted hip-hop dance	Group warm-up, overall stretching, choreographic composition, and improvisation, and relaxing.	Dance performance named: *Onde está o amor?* At Londrina Theatre	60 mins session/one time per week	Mean sessions 20.8	1200	Quality of Life (QOL)	Pediatric Outcomes Data Collection Instrument	Improved transfer, mobility, global function and symptoms, sporting, and physical function, when compared with control group, $p<0,05$	b760, b147, d420, d450, d455, d9201
										Biopsychosocial profile	Child Behavior Checklist	Reduced symptoms of anxious/depressed ($p=0.03$), aggressive behaviour ($p=0.01$), externalizing problems ($p=0.00$), and total problems ($p=0.01$)	b152, d720

Participation outcomes

Outcomes at the Body Functions and Structure level were measured in all 16 papers, while only five studies assessed participation in community, social and civic life (e.g., engagement in sporting and physical activities, dance and art shows, and general community activities) (Korobko et al., 2022; Lakes et al., 2019; Lopez-Ortiz et al., 2012; Teixeira-Machado et al., 2017; Withers et al., 2019). Teixeira-Machado et al. (2017) reported improvement in the dance group joining community activities ($p=0.007$), while Withers et al. (2019) reported significant differences in the sporting domain, between the dance group and the control group post- intervention ($p<0.05$). Mapping participation constructs to the fPRC framework enabled further consideration of the factors that influence participation (Adair et al., 2018; Kilgour et al., 2021). Table 3 reports participation components (attendance and involvement) and the intrinsic person-related concepts of participation (activity competence, sense of self, and preferences) assessed across all studies (Adair et al., 2018).

Seven studies reported attendance at dance classes, three reported attendance rate, which varied from 85% to 98.2% (Cherriere et al., 2020a; Joung et al., 2020; Joung et al., 2021; Lakes et al., 2019; Owens & Silkwood-Sherer, 2019; Terada et al., 2017; Withers et al., 2019), and one study reported participants' attendance at dance performances (Korobko et al., 2022). Eight studies reported participants' involvement, but only three measured this domain (Joung et al., 2021; Lopez-Ortiz et al., 2012; Withers et al., 2019). Only Withers et al. (2019) assessed involvement while taking into consideration focus, confidence, aptitude, and participation. In this study there was a strong correlation ($r = 0.67$, $p = 0.05$) between increased social competence and participation [6]. The fPRC also defines factors at the individual level that influence participation, conceptualised as intrinsic person-related concepts (Adair et al., 2015; Imms et al., 2017). Activity competence was assessed in all 16 studies, but most studies did not measure or mention sense of self and preference. Only five

studies assessed sense of self (Joung et al., 2020; Joung et al., 2021; Korobko et al., 2022; Lasseter et al., 1989; Withers et al., 2019) and two reported associated data (Owens & Silkwood-Sherer, 2019; Stribling & Christy, 2017). Increased self-confidence was assessed in four studies, however, three studies did not report quantitative data (Joung et al., 2021; Korobko et al., 2022; Lasseter et al., 1989), and one study only reported an extremely strong correlation between the self-confidence and withdrawn/depression variables (r = - 0.91, p = 0.001) and a very strong correlation between self-confidence and affective problems (r = - 0.88, p = 0.001) (Withers et al., 2019). Body image was assessed in one study showing statistically significant pre- vs. post- improvement (p=0.005) (Joung et al., 2020). Five studies measured preferences, with enhanced engagement in community and school activities highlighted by participants as they began to experience the same activities as their peers (Joung et al., 2021; Korobko et al., 2022; Lasseter et al., 1989; Lopez-Ortiz et al., 2012; Stribling & Christy, 2017). Additionally, five studies reported changes in attitude after participation in dance performance with increased motivation and involvement in community activities and dance programs.

Table 3 Studies mapped to the family of participation-related constructs (fPRC)

References	Attendance	Involvement	Activity competence	Sense of self	Preferences
Cherriere et al. (2020a)	85% of attendance reported.	**N/M** *(Used retention rate of 100% to suggest motivation and enjoyment)*	Balance, Limits of Stability, Gait, Rhythm Reproduction, and Attention.	**N/M**	**N/M**
Joung et al. (2020)	98% of attendance reported.	**N/M** *(Reported high level of satisfaction with the program)*	Gait, Range of Motion (ROM).	Improved Body Image	**N/M** *(Reported motivation to be more active, join school choir, dance, and theatre clubs)*
Joung et al. (2021)	98.2% attendance reported.	Post-performance interview: enjoyment performing.	Balance, Gait, ADL's.	Post-performance interview: enjoyed presenting achievements to the public and receiving applause from the audience.	Post-performance interview: Participants highlighted motivation to be more active in daily life.
Korobko et al. (2022)	Attendance to performances at school, charity events and festivals.	**N/M**	Hand Function, Gross Motor Function, and Mobility.	Increased self-care, self-confidence, sense of community, and diligence.	Participants developed an interest in going to the hairdresser and engaged in art.
Lakes et al. (2019)	Adherence to intervention, attendance in at least 16 out of the 18 intervention sessions.	**N/M**	Physical Activity, Muscle Strength, Gait, Motor Control, and Executive Functions.	**N/M**	**N/M**
Lasseter et al. (1989)	**N/M**	**N/M** *(Participant exhibited pleasure in her achievements and enjoyed the experience)*	Motor Proficiency.	Participant developed and established her feelings of self-worth and self-esteem.	Participant began to experience and engage in the same activities as her age mates.
Lopez-Ortiz et al. (2012)	**N/M**	High level of enjoyment, participants excited to engage in a dance performance.	Parents perception of child's improvement in motor control.	**N/M**	Expressed desire for more classes and new interest in school groups and art shows.
Lopez-Ortiz et al. (2016)	**N/M**	**N/M**	Balance and Upper Body Function	**N/M**	**N/M**
Owens and Silkwood-Sherer (2019)	Increased in compliance in therapy.	**N/M** *(Reported participant was highly motivated by dancing)*	Gait and Balance	**N/M** *(Reported increased confidence and self-awareness)*	**N/M**
Pascual et al. (2015)	**N/M**	**N/M**	Full port de bras forward (ROM)	**N/M**	**N/M**
Stribling and Christy (2017)	**N/M**	**N/M**	Postural Control and Balance	**N/M** *(Reported participant felt more confident)*	Following the dance program, participant excited to begin a community dance class.
Teixeira-Machado et al. (2017)	**N/M**	**N/M** *(Reported involvement externalized by participants during public presentations)*	Mobility, ADL's, Cognitive Function, Psychosocial adjustments, IADL's.	**N/M**	**N/M**
Teixeira-Machado and DeSantana (2019)	**N/M**	**N/M** *(Indicates adherence due to sense of belonging)*	Lower-limb ROM	**N/M**	**N/M**
Terada et al. (2017)	Attendance between 2.0±1.5 and 3.1±1.4 days a week.	**N/M**	Aerobic Fitness	**N/M**	**N/M**
Terada et al. (2018)	**N/M**	**N/M**	Nutritional aspects	**N/M**	**N/M**
Withers et al. (2019)	Classes attended 20.8 (± 7.4)	Focus assessed and correlated with other study variables. Participants interacted effectively in the activity.	Mobility, Global Function, Sports and Physical Function. Aptitude assessed and correlated with other study variables.	Experienced feeling of belonging. Self-confidence assessed and correlated with other study variables.	**N/M**

N/T refers to constructs not measured. Comments in brackets were extracted from the discussions, however, studies did not mention tool used to measure the constructs. The Child Behavior Checklist outcomes were not included on this table, because it does not align with any of the fPRC constructs (Adair et al., 2018)

Meta-analysis of intervention studies

Ten studies were included in the multi-level meta-analysis, with a total of 157 effect sizes. Figure 9 presents the forest plots for the meta-analyses that included all outcomes and the five additional subgroups, cognitive/mental function, motor function, social and emotional function, engagement, and metabolism. The multi-level meta-analysis by outcomes yielded a large effect overall (g = 1.18, 95% CI = [0.19, 2.18]), with very high heterogeneity I^2 = 90.7%. However, most of the heterogeneity came from the study level (I^2 level-3 = 79.03%).

Cognitive/mental function outcomes showed a very large but non-significant effect size, overall, but with wide confidence intervals (g = 2.55, 95% CI = [−1.78, 6.88]), and considerable heterogeneity at the study level I^2 (level-3) = 96.55%. The "Learning" outcome returned a large effect size, with a wide confidence interval (g = 2.31, 95% CI = [0.57, 4.04]), contributing to 7.8% of the overall estimate effect size of all outcomes. Motor function outcomes weighted most heavily (53.4%) to the overall effect size. Analysis showed a large effect (g = 1.50, 95% CI = [0.35, 2.66]), with strength, postural control, and balance all yielding significant effects of high magnitude (effect sizes >1.5). Social and emotional function outcomes revealed a large but non-significant effect size, with a wide confidence interval (g = 2.22, 95% CI = [−1.69, 6.14]) and considerable heterogeneity between studies (level 3) I^2 = 97.27%. Social/interpersonal factors (e.g., social problems and relationship); and Psychosocial factors (like anxiety, somatic complaints, and depression) outcomes yielded significant effect sizes (g = 3.16, 95% CI = [1.27, 5.04]; and g = 2.24, 95% CI = [0.56, 3.92]). Behavioural factors also contributed to a large effect size (g = 1.79 CI = [0.15, 3.43]) and weighted more than half of the social and emotional function outcomes subgroup (6.1%). Despite the large effect, the engagement moderator was non-significant (g = 1.52, 95% CI = [-0.04, 3.08]).

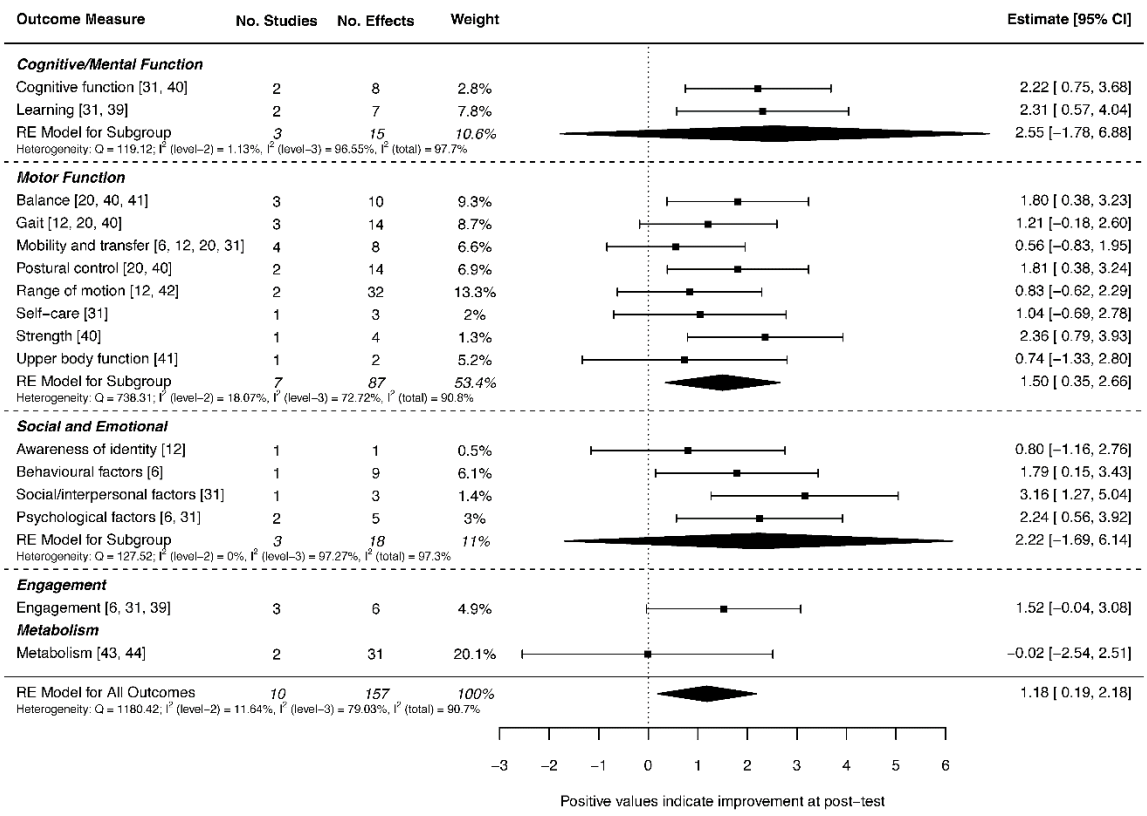


Figure 9. Forest plots for the meta-analyses on all outcomes, with each outcome measure entered as a moderator and as additional subgroups, including cognitive/mental function, motor function, social and emotional, and other outcome categories.

Moderator analyses revealed that the two RCT studies (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019) had significantly larger effects than non-RCT studies (p<0.001), with the RCT studies having the highest estimate among all moderators (g = 4.08, 95% CI = [3.61, 4.54]. Outcomes were significantly improved for those with the ability to ambulate compared with those who could not (p = 0.024), and for movement-based dance types compared with step-based (p = 0.040). On the other hand, intensity (minutes/week) and dose (total minutes) of the dance intervention did not significantly moderate outcomes (Joung et al., 2020; Joung et al., 2021; Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019).

Table 4 Moderator analysis effect of dance type, dose, intensity, sample size and study design on outcomes effects size.

Moderator	*W*	*df*	*p*	*k*	*n*	Estimate	95% CI	Weight (%)
Design	190.951	1, 155	0.000	10	157			
RCT				2	43	4.08	3.61, 4.54	20.1
Not RCT				8	114	0.42	0.18, 0.66	79.9
Sample size	2.976	1, 155	0.086	10	157			
5-9 participants				5	58	0.39	-0.89, 1.67	49.6
10-13 participants				5	99	1.96	0.70, 3.23	50.4
Ability to ambulate	5.221	1, 108	0.024	7	110			
No				2	31	0.02	-0.33, 0.36	27.0
Yes				5	79	0.48	0.27, 0.68	73.0
Dose	2.138	1, 124	0.146	8	126			
720-1200 mins				4	57	0.70	-0.87, 2.26	49.7
1440-2880 mins				4	69	2.32	0.77, 3.88	50.3
Intensity (minutes/week)	1.742	3, 122	0.162	8	126			
60				1	15	0.63	-2.29, 3.55	12.6
120				3	73	3.04	1.35, 4.72	38.0
180				3	19	0.68	-1.05, 2.40	36.7
240				1	19	0.25	-2.66, 3.16	12.7
Dance type	4.305	1, 155	0.040	10	157			
Movement-based				4	69	2.27	0.93, 3.61	40.2
Step-based				6	88	0.45	-0.65, 1.55	59.8

Discussion

This combined systematic review and meta-analysis evaluated 16 studies that investigated the effects of dance intervention for people with CP, measured across levels of the ICF. Ten of these studies had not been previously reviewed systematically (Cherriere et al., 2020b; Lakes et al., 2019). Our review showed most studies were of low methodological reporting quality and had small sample sizes. Only two studies were RCTs (Teixeira-Machado et al., 2017; Teixeira-Machado & DeSantana, 2019) and dance protocols were often poorly described, with only two clearly detailing the content and pedagogy of the dance intervention (Joung et al., 2020; Joung et al., 2021). Outcomes related to body structure and function were most reported across studies. Meta-analysis of these outcomes suggested that dance interventions

are an effective means of improving motor function outcomes, but there was heterogeneity in the profile of effect sizes within performance categories. Few studies reported the effects of dance interventions across the participation constructs. The pattern of results within each of the major categories of function are discussed below. The discussion will also address the need to move toward participation-focused dance interventions in future studies.

Body Structure and Functions

Neuromusculoskeletal and movement-related functions

The most frequently reported outcomes were walking/gait, balance/postural control, and range of motion (ROM), with the meta-analysis showing large, significant improvements in postural control and balance (g values > 1.81). Measures of balance were varied, while two studies used the Pediatric Balance Scale (PBS) (Cherriere et al., 2020a; Lopez-Ortiz et al., 2016). The results for balance outcomes were consistent with earlier work on the effects of dance in children with disabilities by May and colleagues (2021). The results of their research yielded a significant pooled effect for balance in response to the intervention (g = 1.028, 95% CI = [0.575, 1.481] p<0.001) (May et al., 2021). Many aspects of dance interventions incorporate gross motor training such as sequential movements around the room while responding to music and beats of different tempo, challenging their limits of stability and spatial awareness (Joung et al., 2020; Joung et al., 2021). By comparison, recent studies show moderate evidence to support the use of exercise-based (gross-motor) training to improve postural control in ambulant children with CP; this training involves repetition of simple functional exercises involving balance, walking and standing activities (Dewar et al., 2015).

Basic mobility for ambulant participants with CP (walking/gait) was measured in six studies (Cherriere et al., 2020a; Joung et al., 2020; Lakes et al., 2019; Owens & Silkwood-Sherer, 2019; Teixeira-Machado et al., 2017; Withers et al., 2019), however, seven different outcome measures were used, highlighting the need for greater consistency in measurement

when determining efficacy across several studies with small sample sizes. In their scoping review of dance interventions for CP, Cherriere and colleagues also identified that researchers fail to adopt standardised tools and validated outcome measures (Cherriere et al., 2020b). This issue was further highlighted in our review, which limits conclusions about the effects of dance intervention for people with CP (Booth et al., 2018).

The overall effect of dance on lower-limb range of motion was moderate (but non-significant), $g = 0.57$ [95% CI -1.13, 2.26], while the specific effect reported in the RCT by Teixeira-Machado and DeSantana (2019) was significant. Indeed, consistent with earlier reviews, there are promising findings on the effect of dance intervention on amplitude of movement (Smart et al., 2018). However, additional data is needed to address the determinants of change, related to such factors as training intensity and schedule (Teixeira-Machado & DeSantana, 2019).

Mental functions

Cognitive/Mental Function was explored in only three studies of dance interventions, despite the fact that cognitive function is often impaired in children with CP, with this review yielding a large effect size $g = 2.55$ (95% CI = [−1.78, 6.88]) (May et al., 2021). The earlier meta-analysis of Koch et al. (2019) also showed that dance intervention can benefit cognitive skills. Similarly, however, the limited number of studies and the wide confidence intervals do not allow us to dissect the specific effects on different aspects of cognition including working memory, executive attention, sustained attention, and processing speed (Cherriere et al., 2020b; May et al., 2021).

Similarly, few studies explored the benefits of dance on the psychological wellbeing of people with CP. Mental health problems such as depression and anxiety were only measured by Withers et al. (2019). And, the RCT by Teixeira-Machado et al. (2017) showed improved psychosocial, interpersonal, and behavioural factors after the dance intervention.

The systematic review and meta-analysis by May et al. (2021) also highlighted this gap in research, and encouraged studies that evaluate use of dance to develop the social skills of children with disability. Our review did show that the two studies measuring psychosocial functions had statistically significant and positive gains (Teixeira-Machado et al., 2017; Withers et al., 2019), consistent with the earlier meta-analysis of Koch showing benefits for quality of life and interpersonal skills (Koch et al., 2019).

Participation and the Family of Participation Related Constructs (fPRC)

Participation outcomes were the key point of interest for this review; however, only three studies measured participation as an outcome and very few measured the intrinsic and extrinsic components of participation. Artistic and creative experiences, such as dance, allow a playful approach that fosters participation, however, studies of dance maintain a focus on physical outcomes at the body structure and function level (Duarte Machado et al., 2021; Duckworth et al., 2020; Millard et al., 2021). A necessary shift from impairment-focused to participation-focussed interventions is needed to improve outcomes across all levels of the ICF for people with CP (Anaby et al., 2022; Reedman et al., 2021b), using participation as an entry point to physical, recreational, and social activities, may help to develop body structure and function, and further participation (Duckworth et al., 2020; Kilgour et al., 2021).

According to the fPRC, the two core components of participation are attendance (measured commonly as frequency) and involvement (measured subjectively and including elements like social connection, engagement, and motivation) (Imms et al., 2017; Schlebusch et al., 2020). While eight studies measured participants' attendance at dance classes and performances, only three assessed involvement (Joung et al., 2021; Lopez-Ortiz et al., 2012; Withers et al., 2019). Schlebusch et al. (2020) identified that most studies investigated participation as "being there" (adherence/attendance), which aligns with our findings.

Interestingly, attendance was frequently construed as being related to personal or inter-personal factors, but supporting data was not provided. Teixeira-Machado and DeSantana (2019) reported that adherence was due to participants' sense of belonging. Similarly, Joung et al. (2020) reported a high level of satisfaction due to the high level of attendance (98%), while Cherriere et al. (2020a) also reporting a high participation rate (85%) and noting that participants and families were highly motivated and enjoyed the intervention. Notwithstanding this, not one of the three studies just mentioned measured involvement. According to the fPRC model, participation is more than the individual's physical presence at an activity (Duckworth et al., 2020). The participants' involvement is their subjective experience while engaged in the activity, with aspects that are frequently overlooked in research including motivation, persistence, and social connection (Resch et al., 2020).

A strong link has been suggested between participation in dance and improved psychosocial functioning (Teixeira-Machado et al., 2017). Teixeira-Machado et al. (2017) reported a correlation between improved participation outcomes ($r = 0.97$, $p = 0.01$) and psychosocial adjustment ($r = 0.83$, $p = 0.005$). Similarly, Withers et al. (2019) reported a strong correlation between increased social abilities and participation in dance intervention ($r = 0.67$, $p<0.05$). Dance as a means for positive participation experience, has the potential to develop preferences for further participation in physical activities (Cameron et al., 2021; Prieto et al., 2020). For example, Lopez-Ortiz et al. (2012)reported that children with CP who are involved in classical ballet training, expressed the desire to have more dance classes, participate in a school group, and develop a new interest in attending art and dance shows. However, the findings from Lopez-Ortiz et al. (2012), should be interpreted with some caution as no follow-up evaluation was conducted to confirm if there were changes in participation in community-based creative activities over time.

All five studies that provided the opportunity for participants to present a dance performance to an audience, reported positive change in attitude. Indeed, for Teixeira-Machado and DeSantana (2019), the dance performance was an awakening moment for people with CP, providing an opportunity to be a (positive) centre of attention, on stage and receive standing applause (see also Joung et al. (2020)). For Withers et al. (2019) the dance performance motivated children with lower aptitude to develop better individual performance. On the post-performance interview used by Joung et al. (2021) participants reported a feeling of joy when presenting their achievements to the public and receiving applause from the audience. In a similar vein, a study on dance classes and public performance for perception of wellbeing on people with Parkinson's disease shows that public dance performances may contribute to a magnified experience of wellbeing (Carroll et al., 2023).

Taken together, this review shows that the ICF Body Function and Structure, and Activity domains were commonly measured outcomes, but only few studies measured participation as an outcome, and even fewer measured the participation in dance intervention as a process, even though understanding engagement and involvement is an important part of the biosocial framework of the ICF (Kaelin et al., 2021). As well, it remains unclear whether dance interventions impact the children's interests and preferences into the future. This review reenforces the growing need for dance interventions that focus on participation outcomes, placing participation at the forefront dance program (Anaby et al., 2022; Teixeira-Machado et al., 2017). However, to integrate participation in practice, a dialogue between researchers and the stakeholders is needed to form a genuine partnership (Anaby et al., 2022). To be participation-focused practice, collaborative tools should be used to address stakeholders' perspectives and goals (Anaby et al., 2022; Nguyen et al., 2019).

Strengths and limitations

This review is the first to include a meta-analysis on the effects of dance intervention for people with CP. One of the main limitations of our study was data extraction across such varied methodologies and the small number of studies—the net effect was a meta-analysis that showed wide confidence intervals on combined estimates of effect size and high heterogeneity. This placed some limits on the conclusions that could be drawn about the effects of dance on different aspects of functioning and performance in people with CP (Koch et al., 2019). To better understand the characteristics of studies that moderated outcomes, a range of factors were considered. Effects were significantly larger for the two RCT studies than other study designs. With the small number of studies, other moderator outcomes are likely to be heavily influenced by the results of the two RCT studies, and therefore results should be interpreted with caution. Nevertheless, we provide potential insight to practitioners on a range of moderating factors, and results should be used to guide consistency in future work.

The broad definition of participation in the ICF does not adequately capture the complexity of outcomes and, as such, we adopted the fPRC framework to fully describe the aspects of participation considering the intrinsic and extrinsic factors that influence the life of people with a disability (Adair et al., 2015; Imms et al., 2017; Schlebusch et al., 2020). Unfortunately, the literature base is still limited, and did not provide a sufficient body of work for a robust analysis of participation outcomes.

Future research

This review highlights the need for greater detail regarding the content and pedagogy of dance interventions to allow replication across the heterogeneous clinical presentation of CP. A detailed description of interventions will provide an understanding of the elements of dance that contribute to increased effectiveness (Beaudry et al., 2019). Our meta-analyses

also suggested a high degree of heterogeneity between outcome effects, due to differences in study design and measurement. To advance the literature, a more programmatic approach is needed, with improved study designs and greater consistency in the choice of (validated) outcome measures, supporting quantitative reviews of treatment efficacy (Edwards et al., 2020).

Participation focused research should use collaborative tools to reach decisions together with consumers (Anaby et al., 2022), however, to date no studies were co-designed with consumers, considering the perspectives of people with CP. To close this gap, an interactive process of knowledge exchange should be implemented between those who carry out the research, those implementing the research in real life and most importantly, those whom the research impacts, that is people with CP and their families (Jull et al., 2017; Nguyen et al., 2020).

Conclusion

The number of studies supporting the use of dance interventions for people with CP has increased in recent years. Although, this systematic review revealed significant limitations in the design of recent studies (with only 2 RCTs), and high heterogeneity in population and outcomes measure; this review suggested that movement-based and step-based dance practice have a positive impact on walking/gait, balance/postural control, and range of motion (ROM). More broadly, the range of the studies designs, and the nature of the outcome measures presented in this review are appropriate for the early stage of the field (Edwards et al., 2020). Nevertheless, findings should be interpreted with caution and may be used as a starting point to guide clinical practice and enable implementation fidelity of the dance intervention in the real world.

Future research measuring outcomes across all dimensions of the ICF is needed to improve the level of empirical support for dance-based interventions. Furthermore, interventions

should move beyond the traditional model of practice focusing on body structure and function, towards a participation focussed model with goals that are meaningful for the participants and their families (Reedman et al., 2021b). In addition, participation-based research should consider information gathered about the child's desired participation and priorities, to have a positive effect addressing their needs (Kaelin et al., 2021; Schlebusch et al., 2020).

Updated literature review

An updated search of the literature was conducted according to the previously described search strategy on 27 October 2024 to ensure the most recent studies were included in this thesis. This search identified two additional studies relevant to dance interventions for individuals with cerebral palsy (CP): one published in a peer-reviewed journal (Poncet et al., 2024) and another as a full-text article in a conference proceeding (Lentzari et al., 2023). Additionally, a third study, published on 14 October 2024, was located via citation tracking (Joung et al., 2024). Collectively, these studies provide valuable insights that reinforce and further inform the thesis's focus on fostering inclusive dance programs for children with CP.

The recent study by Poncet et al. (2024) marks the first effort in co-constructing dance classes specifically designed for adolescents with CP. Aligning with the systematic review's recommendations, this study consulted with adolescents with CP through focus groups (Phase 1), where they collaboratively established meaningful class objectives, such as movement, enjoyment, and social interaction (Duarte Machado et al., 2023; Poncet et al., 2024). While Poncet and collaborators successfully incorporated youth perspectives in the initial phase of defining objectives, barriers and facilitators, Phase 2 (co-construction of the dance class) only involved dance facilitators and researchers. This diverges from the participatory frameworks advocated in this thesis, which emphasise sustained engagement of knowledge users at every stage of research projects to genuinely incorporate lived experiences and preferences. Despite

this limitation, the study's 10-week program achieved significant outcomes and produced recommendations aligned with inclusive practices, including gathering input from participants before classes to tailor objectives and activities, co-construction with facilitators and target participants, and multidisciplinary collaboration to deepen understanding of participant needs (Abid et al., 2023; McKenzie et al., 2023).

The work of Lentzari et al. (2023) complements this thesis by highlighting the theme of developing a dancer's identity among participants. As participants engaged in inclusive dance classes and received audience validation, they began to perceive themselves as dancers, reinforcing positive self-perception and achievement, a transformation consistent with existing literature that documents positive attitude shifts following dance performances (Joung et al., 2021; Teixeira-Machado et al., 2017; Withers et al., 2019). This focus on identity aligns with the thesis's approach of referring to children with CP as dancers, thereby promoting a social model of disability that emphasises the self-perception of dancers as active participants in the art form (Browne & Dorris, 2022). Another critical alignment with this thesis lies in the holistic inclusion and social justice within dance, where participants with and without disabilities formed meaningful connections, promoting belonging and safe connections. This approach echoes frameworks such as the fPRC, which value environments that foster competence and social belonging as foundations for meaningful participation (Granlund & Imms, 2024; Imms et al., 2017). While Lentzari et al. (2023) was published in a conference proceeding and not a full peer reviewed paper, it represents emerging evidence that aligns strongly with this thesis's principles, supporting dance as a medium for social connection, self-expression, and identity formation.

The study by Joung et al. (2024) focused on assessing outcomes related to body structure and function, particularly examining gait improvements in adults with CP. This emphasis on physical outcomes, such as mobility and stability, is consistent with findings

from the systematic review, which also highlighted similar benefits in these domains (Joung et al., 2020; Teixeira-Machado et al., 2017). Importantly, despite its focus on physical outcomes, the study also captured broader impacts through subjective reports of physical and emotional satisfaction using post-questionnaires and group interviews (Joung et al., 2024). The participants' social interactions in group classes offered meaningful connections, even without larger community engagements, and suggest dance as a medium for creating social bonds and reducing isolation (Joung et al., 2024; Millard et al., 2021). When mapped to the fPRC framework these findings highlight the shift toward acknowledging the real impact of dance on participation constructs, such as involvement, sense of self and preference, rather than just noting these as 'collateral' consequences. This thesis similarly advocates for accessible, regular dance classes to support consistent engagement and sustained impact, addressing logistical barriers like transportation to venues, which are essential when implementing community-based programs for individuals with disabilities (Lopez-Ortiz et al., 2019).

Chapter 3 Summary and Implications:

This systematic review and meta-analysis show promising results for the benefits of dance interventions for individuals with CP, demonstrating improvements in mobility, balance, and well-being. However, despite the increasing number of studies, significant methodological limitations, such as heterogeneity in study designs and outcome measures, were identified. Traditionally, the majority of studies have prioritised Body Structure and Function outcomes over broader participation metrics, often neglecting the lived experiences of participants and largely relying on quantitative approaches. However, with the recent additions to the literature, including studies by Poncet et al. (2024) and Lentzari et al. (2023), there is a promising shift towards participation-focused outcomes, underscoring the value of integrating participant voices and fostering social inclusion and identity within dance environments. As

the field advances, it is crucial to prioritise the perspectives of individuals with CP and their families to address unique needs and to develop dance programs that promote meaningful engagement and evidence-based, inclusive practices. We recommend that dance programs incorporate the following approaches:

- **Participation-Focused Approach:** Dance programs should shift towards a participation-focused approach, placing involvement and engagement at the forefront of intervention design and implementation. Collaboration among researchers, stakeholders, and individuals with CP is needed to ensure real-world learning and life experiences where people with CP can learn and enjoy dance in the context in which it is intended, in the community. This involves moving from traditional interventions to participation in community-based activities.
- **Collaborative and Participatory Approach:** Current approaches often fail to adequately address the complex individual and contextual factors influencing participation in dance programs among children with CP. Thus, adopting a collaborative and participatory approach is crucial to gain valuable insights into priorities, preferences, and barriers to participation for children with CP.

Future research should increasingly embrace a participation-focused approach, involving knowledge users in the design and implementation process to meet the diverse needs of individuals with CP and their families. These recommendations informed Aims 2 and 3 of this doctoral program, which bridge research and practice by enhancing the accessibility and impact of dance classes for children and youths with CP, ultimately promoting community inclusivity and enriched social engagement.

Chapter 4. Understanding 'end-user' experiences and perspectives of dance classes for children with Cerebral Palsy

Preface

The systematic review and meta-analysis presented in Chapter 3 yielded promising findings regarding the benefits of dance interventions for individuals with cerebral palsy (CP), including improvements in mobility, balance, and overall well-being. Despite these positive outcomes, significant methodological limitations, and gaps were identified. Most notably, there was a lack of good quality reports on participation outcomes, with many studies only providing anecdotal comments addressing participation. This highlights the need for a shift towards participation-focused activities and a more collaborative, participatory approach involving stakeholders and individuals with CP.

One difficulty presented in this thesis is contextualising participation in community-based activities in relation to inclusion. The first aim of this PhD was to co-design a dance intervention to improve participation outcomes of children with CP according to the Family of Participation-Related Constructs (fPRC). However, the work presented in this chapter represents the beginning of the partnership with a Consumer Advisory Panel (CAP) which guided this research project throughout its lifecycle and shifted our perspective to understand the essence of inclusion and its impact on families. Therefore, before continuing the journey of dance and participation outcomes for children with CP, it was paramount to ensure that the factors influencing the inclusion of children with CP in community-based dance classes were understood, and that the strategies recommended by children, parents, and dance teachers to facilitate participation in community-based dance classes were appropriately explored.

Using the integrated knowledge translation (iKT) approach (Nguyen et al., 2020), this research prioritised continuous engagement and sustained relationships between researchers and 'knowledge users' to increase research impact and facilitate the translation of research

findings into practice (Mendell & Richardson, 2021; Nguyen et al., 2020). The voices of the CAP were prioritised throughout and integrated into decision making to increase the authenticity of knowledge user involvement in the research. The International Association for Public Participation (IAP2) Spectrum of Public Participation (Banner et al., 2019) guided the engagement with the CAP throughout this study. The IAP2 model aims to improve public participation in research and presents a tangible and practical scale to classify level of involvement into five categories: (i) inform, (ii) consult, (iii) involve, (iv) collaborate, and (v) empower (Banner et al., 2019; McNeill et al., 2021).

The CAP comprised six collaborators and members were identified through dance and research groups, and community organisations. They included: (i) two parents supporting people with CP to engage in dance; (ii) a ballet dancer with experience in teaching dance to people with disability; (iii) two allied health therapists with experience in dance interventions, and (iv) a dance researcher. Using reflexive Thematic Analysis (TA) (Braun & Clarke, 2023), a flexible interpretative approach focused on the researcher's active role in knowledge generation, the CAP was involved in the review of themes, offering critical feedback and identifying gaps in the data. This process was called "critical friends" and guided our data analysis, ensuring rich analysis prioritising lived experiences (Braun & Clarke, 2023; Byrne, 2021; Smith & McGannon, 2017). The manuscript below was co-written with members of the CAP for peer review submission and addresses aims 2 and 3 of this doctoral program. Full citation details for this submission are provided below:

Duarte Machado, E., Cole, M. H., Wilson, P. H., Nicholas, J., Thevarajah A., Cross, J., Miller, L. (*submitted*). Key strategies to promote inclusion of children with Cerebral Palsy in community dance classes: families' and dance teachers' perspectives. *Research in Developmental Disabilities*.

Abstract

Aim: The aim of this study was to identify the factors that influence the inclusion of children with cerebral palsy (CP) in dance classes and describe the recommended strategies to facilitate participation. **Methods:** Two rounds of focus groups and individual interviews were conducted with parents of children with CP (n = 2), children with CP aged 7-10 years (n = 2), school-based dance teachers, studio-based dance teachers, and health professionals (n = 5). A Consumer Advisory Panel (CAP) with family (n = 2) and professional partners (n = 6) collaborated throughout the study lifecycle. Qualitative data was analysed using reflexive thematic analysis. **Results:** Parents expressed challenges in finding an inclusive dance classes in the community and uncertainty about the skill set of teachers required to support inclusivity. The overarching theme, "Finding the Right Place" was supported by four main themes focused on overcoming barriers to participation: "Inclusive dance environment", "Flexibility within structure", "Collaborative approach", and "Relational approach". Key facilitators were barrier-free spaces, trust, and a sense of belonging. **Conclusions and Implications:** This study highlights the need for a collaborative approach using strategies, tailored to the unique needs of each child and their family, to support inclusion in community dance classes.

Keywords: Cerebral Palsy; Dance; Inclusion; Focus Group; Collaboration

Highlights:

- Accessible environments and inclusive culture enable participation in dance classes.
- Collaboration among recreation, health experts, and families enhances participation.
- Results show a need to upskill the workforce in disability inclusion best practices.

What this Paper adds:

There is limited research on how community-based dance teachers can enable inclusion of children with CP in their community- or school-based dance classes. This paper addresses this gap by presenting strategies to overcome participation barriers, highlighting the

importance of accessible environments, an inclusive culture, and collaboration between recreation organisations, health professionals, and families. The findings emphasise the need to translate these strategies into clinical practice to ensure real-world application and positive outcomes. The study also underscores the importance of upskilling the workforce in best practice disability inclusion to enhance participation experiences. This offers actionable guidance for creating supportive, engaging dance classes for children with CP.

Introduction

Despite the growth in evidence-based programs promoting community participation in physical activities for people with CP (McKenzie et al., 2023; Sivaratnam et al., 2020), children with CP continue to report lower levels of participation and engagement in a narrower range of activities than typically developing children (Resch et al., 2020). To better understand the enablers and barriers for people with CP to participate in life situations, Imms and Granlund (2017) developed the Family of Participation Related Constructs (fPRC). This framework considers attendance and involvement, fundamental participation constructs, within a dynamic framework that includes personal and environmental factors (Ding et al., 2024).

Recent literature shows positive effects of adapted physical activities on participation outcomes for children with disabilities within the fPRC framework (Nyquist et al., 2020). However, structural disablism and environments that are inadequately designed to support disability inclusion often prevent many from participating in sports and recreational activities (McKenzie et al., 2023; Youngblood et al., 2023). Achieving true inclusion requires a holistic approach involving innovative strategies to overcome barriers and foster attendance and involvement of children with disabilities in everyday life situations (Stroobach et al., 2022). Thus, understanding the perspectives of individuals with lived experience, and considering

the personal and environmental factors impacting their involvement in community activities can positively address their needs and enhance participation (McKenzie et al., 2023).

Inclusive arts-based activities, such as dance, have been reported to play an important role in the lives of people with CP, fostering positive changes in values and attitudes towards participation (Edwards et al., 2020; Lopez-Ortiz et al., 2019). These activities promote interactions and create a sense of belonging, leading to positive psychological and social health outcomes (Lopez-Ortiz et al., 2019; May et al., 2021). However, most studies focus primarily on outcomes related to body structure and function, often overlooking or only reporting anecdotal data related the broader aspects of participation and inclusion (Duarte Machado et al., 2023). As a result, many programs continue to fall short of creating truly inclusive and participatory environments that fully engage children with CP (Duarte Machado et al., 2023; Poncet et al., 2024).

In paediatric rehabilitation, terms like "programs" and "interventions" are commonly used to describe structured therapeutic activities (Anaby et al., 2022; Granlund & Imms, 2024; Vila-Nova et al., 2021). In contrast, children typically engage with dance through community classes offered by local dance studios, community centres, or schools, providing accessible opportunities for recreational participation (Cameron et al., 2021; Ullenhag et al., 2024). As highlighted by a family member involved in this research as an integral member of the Consumer Advisory Panel, children with CP are often offered "programs" or "interventions" rather than community dance classes. This distinction underscores the need to bridge the gap between clinical rehabilitation settings and community-based recreational activities, ensuring that children with disabilities have access to inclusive and enjoyable dance experiences alongside their peers (Ullenhag et al., 2024).

Currently, there are limited studies exploring desired participation outcomes for dance classes, from the perspectives of people with lived experience of disability (Duarte Machado

et al., 2023; Poncet et al., 2024). Additionally, the barriers and facilitators to participation in community dance classes for children with disabilities are also under explored (Duarte Machado et al., 2023). Addressing these gaps is essential to develop inclusive dance opportunities that bridge the gap between therapeutic objectives and community engagement. Professionals within education, healthcare, disability, and community services can significantly influence and support sustained participation and engagement of children and adolescents with CP in physical activities, such as dance (Duarte Machado et al., 2023; Morris et al., 2019). Moreover, asking the child and their family about their experiences and perspectives in dance classes, in the "real world", is crucial to promoting participation in dance classes among children and adolescents with CP (Duarte Machado et al., 2023; Kilgour et al., 2021). Therefore, the purpose of this study was to collaborate with parents, children with CP, health care professionals, dance teachers (collectively referred as knowledge users) to explore and understand their experiences with and perspectives of dance classes and dance interventions for children and youth with CP. The study aimed to identify the factors that influence the inclusion of children with CP in dance classes and describe the strategies recommended by children, parents, and dance teachers to facilitate their participation.

Method

We used a qualitative explorative, descriptive study design with semi structured interviews and focus groups. Using an integrated Knowledge translation (iKT) approach (Nguyen et al., 2020), we established a Consumer Advisory Panel (CAP) with knowledge users who actively participated throughout the project lifecycle. The International Association for Public Participation (IAP2) Spectrum of Public Participation (Banner et al., 2019) was used to guide the CAP involvement in the project (Figure 10). CAP members included: (i) two parents supporting children and young adults with CP to engage in dance; (ii) a ballet dancer with experience in teaching dance to people with disability; (iii) two allied health therapists with

experience in dance interventions, and (iv) a dance researcher.

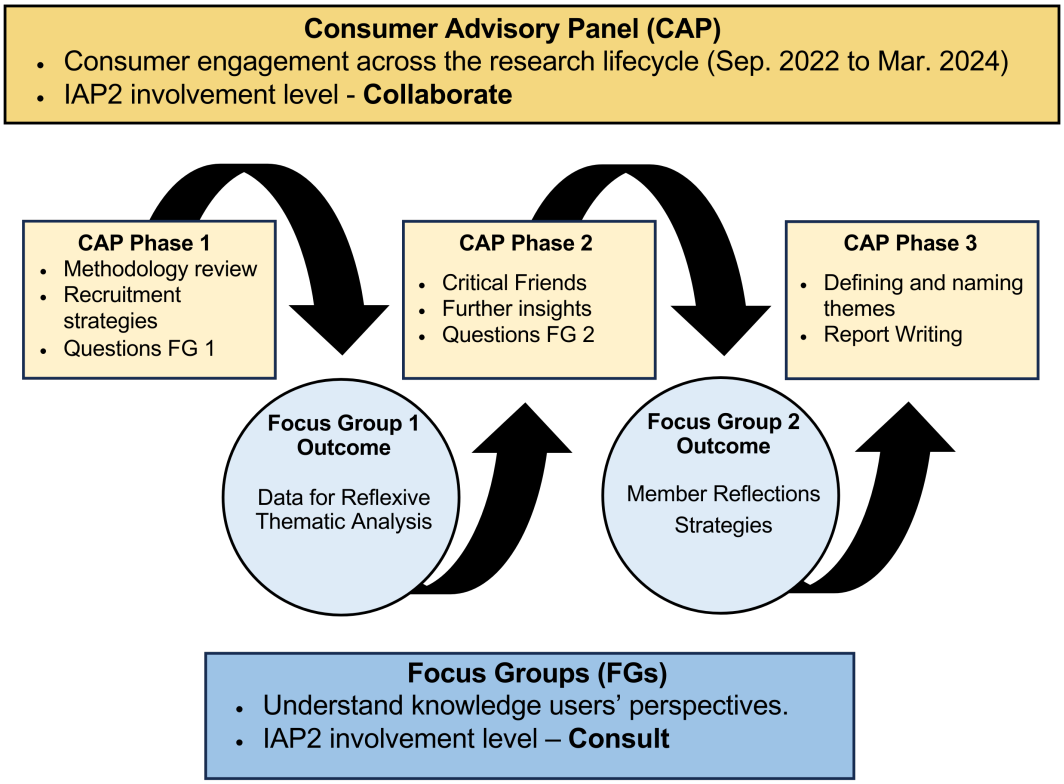


Figure 10. Research lifecycle flowchart, International Association for Public Participation (IAP2) Spectrum of Public Participation involvement level (https://iap2.org.au/wp-content/uploads/2020/01/2018_IAP2_Spectrum.pdf).

Data was collected through semi-structured focus groups and/or individual interviews depending on the preference of the knowledge user. Ethics approval was obtained from the Australian Catholic University's Human Research Ethics Committee (HREC) (Application ID: 2021-302H) (Appendix C).

Participants

Purposive sampling was chosen to capture diverse perspectives across two participant groups: Client Group and Professional Group. Participants were identified through: *health system recruitment,* where participants were invited by health care providers or research staff on a case-by-case basis; *social media marketing recruitment,* with online posts on social media; and *partnering recruitment*, including collaboration with organisation and/or groups

representing people with CP (Vat et al., 2017). The groups were formed to ensure a safe environment where children with CP and caregivers' voices were heard. Client Group: Participants were eligible if they were children aged 7 years or older with a diagnosis of CP who had an interest in or prior experience with dance, and/or families supporting children with CP in dance. No exclusions were made based on the severity of CP. Participants who were non-verbal and did not use alternative forms of communication participated with a parent/carer to advocate and support their engagement. Parents and carers of children under 7 were also invited to participate. Professional Group: This included dance teachers and performing arts teachers with/without experience/expertise in working with children with disabilities; and health professionals with an interest in dance and experience working with children and/or adolescents with disability. No CAP members were participants in this study. Written informed consent was obtained from participants, children and youth who were younger than 18 years old provided informed assent.

Data collection

The semi-structured interview guides were developed in collaboration with the CAP (see Appendix D for interview guide). All Client Group participants chose to complete an interview, whereas the Professional Group elected for a focus group. Two rounds of focus group and individual interviews took place between May and November 2023.

Round One: explored participants' perspectives and experiences with dance, the desired outcomes of their involvement in dance and barriers to participation. The format included: (1) introduction and ice breaker to create a safe and familiar space; (2) discussion of the findings of a recent systematic review (Duarte Machado et al., 2023) which informed participants about the effectiveness of dance and dance interventions for people with CP in addition to current gaps in the literature; and (3) predetermined open-ended questions, with

subsequent probing to explore participants experiences and/or perspectives on questions about their previous experience with dance classes.

Round Two: discussed constructed themes from round one, gathered additional insights and clarification from participants of these themes, further explored facilitators and identified supporting strategies to promote participation in dance classes. The format included: (1) discussion of potential themes and thematic map from the first round; and (2) open-ended questions to gain an in depth understanding of strategies to support inclusion of children with CP in dance classes.

All focus groups and individual interviews were conducted online, via the video conference platform Zoom, and were facilitated by the first author (ED). The procedures were the same in both, except the participants in the focus group discussed and reflected together. The audio and video of all interviews were digitally recorded, and data were transcribed verbatim by the first author.

Data analysis

Interview transcripts were subjected to inductive thematic analysis (TA) using Braun and Clarke's reflexive TA approach (Braun & Clarke, 2022), recorded videos and audios were only used to support familiarisation with data. This is a flexible interpretative approach, focused on the researcher's active role in knowledge generation, embracing the researcher's subjectivity as a resource for the analysis (Braun & Clarke, 2023). Braun and Clarke's six-phase process is a guideline, and it was applied in a systematic, yet flexible way (Braun & Clarke, 2022).

The first author (ED) began with an initial familiarisation by replaying each interview and taking notes to limit preconceptions. Transcripts were imported into NVivo 12 software (QSR International, Doncaster, Australia), where ED independently coded line by line. The team (ED, LM, MC, and PW) met regularly to engage in ongoing reflexive and interpretative

discussions to calibrate coded transcripts and develop an initial mind map and codebook (Appendices E and F, respectively). This was discussed with the CAP where they offered critical reflections on coding and theme generation, and identified areas for further exploration, and new questioning for the second round of interviews/focus group. This process was called "critical friends" and resulted in a revised mind map and codebook (Smith & McGannon, 2017).

The second stage of data analysis involved "member reflections", where participants were invited to reflect on the analysis and provide deeper insights on the topic (Braun & Clarke, 2023). Finally, a full reflexive analysis of the data set occurred after Round Two. The same coding process, team discussions and critical friends approach used for the earlier stages was followed.

Trustworthiness

The authors analysing the data acknowledge their previous experiences inevitably influence their interpretative lenses, and reflexive thematic analysis is based on the premise that the researcher always shapes their research (Braun & Clarke, 2023). ED is a physiotherapist with extensive experience in paediatric rehabilitation and social inclusion, particularly in implementing dance programs for children with disabilities; LM has 20 years' experience in paediatric rehabilitation and research involving family engagement, CP, and participation; MC has expertise in biomechanics, neuroscience, and high-technology systems for assessing balance, mobility, and neuromuscular function; and PW has over 30 years leading motor and cognitive development projects, integrating arts-science in brain injury. To ensure rich analysis, agreement on interpretation was reached through dialogue within the author group. Additionally, collaborative discussions with the CAP complemented the research team's expertise with lived experience as knowledge users in this area of work and enhanced the trustworthiness of the results.

Results

Two children with CP (one aged 7 and the other 10) and two parents participated in semi-structured interviews, while five dance professionals participated in focus groups. One dance professional was also a parent of a child with CP. Participant characteristics are presented in Table 5, with limited information to protect participants' identities. For the professional group, only their professional experience is provided due to the public nature of their roles.

Table 5 Participant demographics

	n
Client Group	**4**
Children with CP	**2**
Gender	
Male	1
Female	1
Ambulant	1
Non-ambulant	1
Parent/Caregiver	**2**
Gender	
Male	0
Female	2
Professional Group	**5**
Community dance teacher	1
Dance movement therapist	1
Studio dance teacher	1
School dance teacher	1
Dancer/music teacher	1

Overarching theme: Finding the right place

"Finding the right place" was the overarching theme that expressed the importance of finding a dance community that actively encouraged and supported children with disability to participate fully in dance classes. Early in the interviews, families expressed a strong preference for inclusion in community activities rather than dance interventions. However, this also highlighted the challenges they faced in finding suitable local dance classes that

could accommodate their child's individual needs. Families expressed many dance spaces "*call*" themselves inclusive, however parents were concerned about the experience and expertise of the teacher to genuinely and safely include their child in the dance class.

> *"… there's a lot of options available to us here in [location]. There's a lot of different dance schools, and a lot of them who encourage inclusivity. But you can encourage inclusivity, and still not necessarily have the skills to back that up." (Parent/Dancer/Music Teacher – Parent Perspective)*

During the second round of focus groups and individual interviews the themes and sub-themes were refined, and four main themes were generated as facilitators of inclusive dance classes that enabled children with CP to fully participate in dance classes with their peers. These included: (1) Inclusive dance environment, (2) Collaborative approach, (3) Relational approach, and (4) Flexibility within structure (Figure 11). During round two, 12 subthemes with 30 supporting strategies were identified to promote participation of children with CP in inclusive dance classes (Table 6).

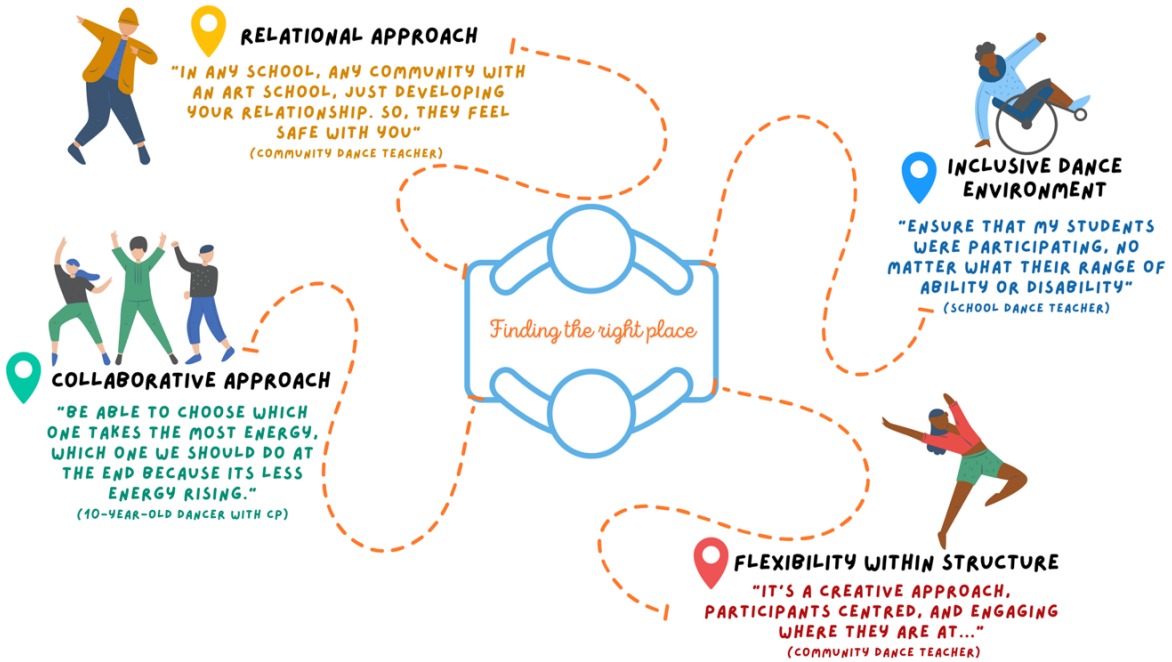


Figure 11. Finding the right place. Four ways to promote inclusivity in community dance classes.

Table 6 The main themes, sub-themes and strategies to implement an inclusive dance classes

Themes and subtheme	Strategies to support participation	Representative quotes
Theme 1: Inclusive dance environment		
Barrier-free environment	• Have accessible infrastructure (e.g., toilets, parking, stage). • Offer dancers different ways to engage in classes (e.g., seated dance or standing with a walking aid). • Have class sizes that allow teachers to engage with all dancers (e.g., move around the class to provide visual and physical feedback).	"For example, if in the assessment they are supposed to give a performance at the end of the unit, instead of asking all the students to perform up on stage, you could create an incredible routine that's in front of the stage where the audience would still see them […] So it's just little simple shifts in what the assessment looks like, that doesn't single students out, and all the students get to benefit from it." (School Dance Teacher) "So, when my group comes in, I say, where are we going to start today? Find your access point. Do you want to start in a chair? Do you want to start next to a chair for balance and support, you provide the option." (Community Dance Teacher) "I guess the other thing would be class size. You probably wouldn't be able to make this work in a class of 20 or 25 kids without additional bodies, they will need, like a support. You couldn't run a class with one teacher, 25 kids, and it'd be accessible." (Parent, 10-year-old dancer with CP)
Inclusive curriculum	• Design classes using principles of equity (e.g., offering classes that cater to different levels of skills and abilities, allocate additional support resources, for dancers who may require extra assistance). • Provide learning opportunities for dance teachers (e.g., workshops, swap-shops, inclusive training). • Accept and celebrate all dancers equally (e.g., provide opportunity for dancers to showcase their ability, encourage them to take new risks and learn by moving to music).	"I was lucky I was given the freedom to be able to create my own programs. And I did reinvent the wheel over and over again many times, but I found it was always worthwhile for all students to create units every term based on what was happening in our community, and what students were in front of me, and what students were presenting, and how I could best create a unit that catered for all of their abilities." (School Dance Teacher) "So, you have to have a flexibility, and you have to have training, an inclusive training, whereby you learn about adjustments, have to do your specific PD [Professional Development] on how, let's say for instance, Cancan can be done seated, can be done supported." (Community Dance Teacher) "We have to be accepting of the people that are in front of us and celebrating the people that are in front of us, and seeing what can be done and what can be achieved." (Parent/Dancer - Teacher Perspective)
Dancer identity	• Empower dancers to recognise dance as a form of expression (e.g., allocate time for self-choreography where each dancer can create and perform based on their feelings, experiences, and stories). • Promote the importance of different dancer roles (e.g., provide opportunities for dancers to try different roles through occasional role-switching activities). • Ensure the dancer feels represented (e.g., poster and books, with different bodies dancing).	"So, a dancer is not somebody who makes shapes in front of other people to music, it something that comes from inside, and something that just needs to be fostered to develop and grow and be expressed by everybody." (Dance Movement Therapist) "... and something that she's really finding in general at the moment is that [long pause] there's very few places that she goes where she is actually has peers, people who understand what her life is like. […] So, she already is coming in with an experience of standing out for the wrong reasons." (Parent, 10-year-old dancer with CP) "Honestly, another thing, is them seeing themselves, it is so important. And I think, even to have teachers who have disability experience in front of them. I think that would be an amazing thing to see." (Parent/Dancer - Parent Perspective)

Theme 2: Collaborative approach

Develop trust and set expectations	• Foster a culture of respect and acceptance (e.g., set norms and expectations at the beginning of the season). • Have open and honest communication (e.g., explain the bigger picture to the people in the group).	"The whole, not the mood, but the whole class would need to be incredibly accepting of things not working out the way that perhaps the teacher expected. So, it is going to look different, it's going to be harder. You would need an environment where that was incredibly safe. And that has more to do with the other students, perhaps, than the teacher as well." (Parent, 10-year-old dancer with CP) I think sometimes it's harder for people who don't have disabilities to understand. So, I think probably some of the work with non-disable students is as important, that they need to understand that the goals and the culture of the sessions is different. It's not a competitive environment, it's very much a collaborative environment, so there needs to be an agreement on, and I call [it] learning." (Dance Movement Therapist)
Give freedom and choice	• Be child led! Mediate the class, rather than direct (e.g., create space for co-creation and shared goals with the group). • Don't assume, ask! Respect the dancer's choices (e.g., give children the ability to choose how they want to engage and be involved).	"So, to kind of have that ability to be able to choose what (activity), which one takes the most energy, which one we should do at the end, because its less energy rising." (10 years old dancer with CP) "I guess it's just about giving them a bit more freedom and choice within the activities rather than telling them that they need to do something, giving them options or the option to opt in or to choose different varieties of what we would call levels of abilities or activities for them to do." (School Dance Teacher) "SW: A big thing [child's name] loves, I think, you love music, don't you? So that's a big thing for you. What would help you have a most fun, is having, including some […] Child: favourite, music […] SW: music that he likes." (Support Worker supporting a 7-year-old dancer with CP)
Welcoming and accepting language	• Champion all dancers (e.g., value the unique strengths of each dancer). • Use accessible language (e.g., use simple language to describe movements or provide visuals to support the use of dance jargon). • Use invitational language (e.g., invite the dancer to engage in movements that are available to them).	"I think just that welcoming, accepting language again is really important. Encourage positive reinforcement when they're trying, observing the things that they are doing really well, but also then taking those opportunities when they arise to, […], just taking those extra steps to go, this is beautiful, this is great most of the time, but every now and then we'll take that opportunity and just see how far up you can actually stretch that." (Parent/Dancer - Parent Perspective) "Making the language which we've touched on already, making movement accessible for the child, by explaining movement in a very simple way, and movement is not complex." (Dance Movement Therapist) "You are inviting them; you're not demanding them. And when you invite them, and they give you a response or an offering, you accept it. You give that positive feedback" (Community Dance Teacher)

Theme 3: Relational approach

Relationship with the family	• Have an accessible and welcoming space for parents to socialize and watch the classes (e.g., family hub with tea and coffee for caregivers). • Listen and learn from parents; they know their child best (e.g., invite parents to share their knowledge with the teachers and the community).	"[…] we've done activities with the other kids where parents aren't actually welcome. You drop your children off and you pick them up at the end. And them you deal with the fallout of a child that can't explain what went wrong but doesn't want to go back." (Parent, 10-year-old dancer with CP) "But even like you've just said getting a physio into to support the staff or even a parent, someone that has unique knowledge of a student that's in front of them. And I don't think, I mean apart from a lot of parents with kids who have a disability being quite busy, they also love to talk about their kids, and they love to think that people want to know about their kids." (Parent/Dancer - Parent Perspective)

Relationship with the dancer's network	• Have an ongoing communication with the dancer's network (e.g., use a communication board to inform and seek feedback about the dancer). • Set boundaries with therapists, so dance remains the focus (e.g., therapists are there to facilitate the teachers' ideas, not to turn it into a therapy session).	"And further to that there might even be, and this is where it becomes about time management, and being able to actually have these conversations and things when we're all very busy. But conversations with physiotherapists, occupational therapists, people who have a bit more knowledge around physical disabilities and what those participants are able to achieve." (Parent/Dancer - Teacher Perspective) "I'm just always trading that fine line of it being, I don't want her to see everything as therapy, it might be therapy, but I don't want her to feel like always she has to have that extra assistance." (Parent/Dancer - Parent Perspective)
Relationship within the dance community	• Foster long-term relationships (e.g., promote social activities, develop trust between the student, teacher, and parents). • Promote an equal relationship between dancers (e.g., provide opportunities for the dancer to help and be helped). • Get to know the dancers in front of you (e.g., talk to them and their family, listen to their interests and strengths).	"The way that you support each other, and the way that you give big cheers for each other when you're in the audience, and if you haven't got that to start with, it can take a lot of time to build that up…" (School Dance Teacher) "We talked, I think, that you talked about peer support as well, which is, I think, that's a really big one that I hope to see a bit more of an upsurge in. I mean, I think kids love to support one another. But I think at the moment the way our education system is, and the way extracurricular activities are structured, a lot of kids are not seeing kids that aren't like them. And so, how are you supposed to learn to support and communicate with people that you're not seeing? And so, I hope that just having more people with disability in spaces, in regular spaces, I'm hoping that that will start to foster that connection and start to educate kids about other people." (Parent/Dancer - Teacher Perspective)
Theme 4: Flexibility within structure		
Be open to modifications	• Provide different levels of modification (e.g., find ways to adapt activities to engage the dancer in front of you). • Respond to the moment (e.g., understand that the daily dynamic can change, and the plan might need to be adapted).	"I was trained in ballet and part of me think that's fantastic, because it really does get you to horn in on all of the individual muscle groups, but at the other end of it, her body just won't be able to do some of the positions […], she can rise beautifully but bending her leg. So, there need to be some modifications. So, whether you find the right teacher who can modify and be happy with that, and she can modify and be happy with that too, or whether we send her in a completely different direction where she can be a bit freer with it." (Parent/Dancer - Parent Perspective) "Kids are kids, you know. So, you can have a class one day that runs so smoothly, but then even so much as, I found like when it rains, everything goes out the door because the kids have been inside all day at school. So, you had this calm idea of a class after school, but they just want to run around. So, you have to really understand and get to know the kids too. You really need to form that relationship with the child and just understand that you can't just follow a recipe." (Studio Dance Teacher)
Embrace fun and creativity	• Ensure dance is a joyful experience (e.g., include fun activities/songs that are enjoyed by dancers). • Use creative activities to engage and involve (e.g., incorporate story time, freestyle, and opportunities for the dancer to explore their own movement).	"Giving you the freedom to explore the styles and the genres of dance that you love and helping the kids to do that too, is amazing." (School Dance Teacher) "I was going to add to that fun definitely, love it, because that's what it's about. That's a way of communicating, it's a way of expressing ourselves. It should be fun, and it should be available!" (Parent/Dancer - Teacher Perspective)
Work towards the right challenges	• Celebrate effort and persistence towards a goal (e.g., recognise the dancer's determination and willingness to try). • Include the dancer on their development journey (e.g., seek	"one of the things that comes up, is the strength that these kids have, the determination and the strength of character that they have just to get through their daily lives" (Parent, 10-year-old dancer with CP) "…fostering sense of progress, just getting feedback from the child, so the child is included in that loop of how they think they're going and that just through necessity, include child being engaged in that processing and also how the

	insights into the dancer's future aspirations). • Set realistic goals (e.g., establish achievable goals, add small challenges to the dancer's movement, smaller goals with more frequent attainment).	child sees what they're doing and any changes they're making in terms of their own self-esteem." (Dance Movement Therapist) "Yeah, and make achievable goals, because a realistic goal is not going to be the same as it would be for a mainstream child. Even in how much they learn in a term. And they need to be smaller goals with more frequent, and I guess, attainment of those goals" (Parent, 10-year-old dancer with CP)

Theme 1: Inclusive dance environment

Barrier free environments, personalised curriculums, and fostering dancer identity were all essential elements to enable and enrich the participation of children with CP in community dance classes. Participants discussed the many barriers to accessing dance classes, including basic environmental challenges such as lack of ramps/lifts, suitable toilets, and disability accessible parking. Physical structural changes to facilities were needed for equitable access and inclusion, as these challenges were identified as "*the main obstacle*" (School Dance Teacher) to participation.

> *"We unfortunately live in a world which has been designed for able-bodied people, and we're trying in the now [to] redesign it to include everyone, which is a much harder task than if you've designed something, I'm just talking about physical buildings at this point" (Parent/Dancer/Music Teacher – Parent Perspective)*

Participants also highlighted the need for personalised strategies to accommodate the dancers' learning preferences and needs. For example, some dancers with CP may need physical prompts or facilitation, and/or additional visual cues with less verbal instruction. Subsequently, the dance teacher will not be able to "*stand at the front of the class and demonstrate something*" (Parent, 10-year-old dancer with CP) as it is not "*one size fits all*" (Parent, 10-year-old dancer with CP). Teaching methods that offer multiple means of engagement are required to promote equity and acceptance of diverse skills, ensuring individual differences are not perceived as disabilities.

Both participant groups discussed fostering dancer identity and sense of self as a critical component to an inclusive environment. Factors influencing this included: creating a safe dance environment; having representation of differences/diversity in the group; providing opportunities to take risks and understand dance as a form of self-expression; and exploring meaningful roles for the child to participate authentically and feel seen and valued within their dance community.

> *"I think often people find that by being observed or being watched by an audience or a third person that they do develop a body-sense. It's different, it's not as based on the experience of movement, but it's the visual witnessing of movement that gets to that sense that here I am, here I am in the space, and this is who I am in this space." (Dance Movement Therapist)*

Overcoming negative stereotypes and promotion of inclusive spaces and dance styles was also seen as critically important for children to see themselves as dancers. "*So, they're not coming to the studio or the school with preconceived ideas of what that [dance] looks like, which can exclude people before they've even started*" (School Dance Teacher). Developing an inclusive curriculum involves reducing power inequalities in dance classes and promoting a democratic teaching approach that embraces and celebrates each dancer's unique movement.

Theme 2: Collaborative approach

Participants spoke about the importance of fostering collaborative partnerships with young people with CP. Building trust, setting expectations, and giving freedom and choice to the child were key aspects. For the professional group, collaboration requires shared responsibility and accountability for group decisions, based on a culture of respect and acceptance. This was aligned with families' perspectives where they felt the need to establish strong sense of community to nurture mutual respect and appreciation, particularly in mainstream environments.

> *"The goals are determined by the group; the group leader is very aware of dynamics in the group and how they impact on people's ability to participate. And there'd be decision making in the group by the group members and the importance of establishing an open and trusting relationship, and if there's such a thing as bringing social justice into the group." (Dance Movement Therapist)*

Empowering children to advocate for themselves and express their challenges, while fostering growth, was also perceived as an influencing factor for a collaborative approach.

During the interviews, child participants demonstrated a desire to co-create and collaborate, from selecting familiar songs to choosing activities, nearly all participants emphasised the importance of classes being child-led. Quotes such as "*talking with the child*" (as expressed by the Studio Dance Teacher), "*child's choice*" (Parent/Dancer/Music Teacher – Parent Perspective), and "*what that child wants*" (Parent, 10-year-old dancer with CP), reflected the importance of understanding the child's purpose for participation—whether it be for skill mastery, enjoyment, or social interaction.

Furthermore, using welcoming and accepting language in the class enhances participation and collaboration. It involves employing accessible language and facilitating communication for children with diverse needs. A carer supporting the engagement of a 7-year-old dancer with CP expressed the need to "*give time to respond*" and "*keep it simple*". According to a Dance Movement Therapist, you can make dance accessible for all children "*by explaining movement in a very simple way, and movement is not complex*".

Theme 3: Relational approach

The importance of fostering meaningful partnerships with all stakeholders supporting the young person with CP was evident in the discussions. This includes involving the child, their family, peers, and allied health professionals in their participation. For families, relationships are built on informal day-to-day interactions, rather than formal meetings. Warm greetings, casual chats, welcoming body language, regular email updates, and relaxed interactions were key. Providing spaces where parents can connect while their children participate in dance classes fosters a sense of community and mutual support.

> *"If you're just meeting people kind of colloquially in that environment where you're all bringing your kids to do the same thing. It's a bit easier to strike up a casual conversation, without it feeling like I'm going through this event with the specific purpose of meeting people and connecting with people." (Parent/Dancer/Music Teacher – Parent Perspective)*

Parents also stressed the importance of feeling valued and understood. Dance organisations should keep "*constant communication*" (Studio Dance Teacher) with families, recognising their understanding of their children and their lived experiences. The dance teacher should be open to *"ask for help"* and learn from those who have lived experience (e.g. caregivers, children themselves), as well as collaborate with their support team (e.g., therapists) on strategies for inclusion. However, it's important to understand that dance is a fun community environment for children and "*therapists are there to facilitate the teacher's ideas, not to turn into a therapy session*" (Parent, 10-year-old dancer with CP).

Developing a sense of belonging and connection fosters mutual support and builds a strong sense of community. However, dance teachers need to be aware of the potential "*power imbalance*" (Parent, 10-year-old dancer with CP). Children with CP are "*already having to ask for a lot more help, and it makes an unequal relationship*" (Parent, 10-year-old dancer with CP). It is important to promote equal relationships through shared experiences. Acknowledging the potential for collaboration amplifies the sense of empowerment and equality among dancers, "*[there's] nothing that (child's name) loves more than feeling like she's imparting her knowledge and able to help*" (Parent/Dancer/Music Teacher – Parent Perspective).

Theme 4: Flexibility within structure

For families, dance teachers should promote a focus on the process, encouraging enjoyment and self-improvement, making it clear that there are multiple ways to succeed. To foster participation, dance teachers need to understand different ways to perform a movement, focusing on what the dancers can do, "*you have a toolkit, that is almost like wrapped around your belt, metaphorically that you just draw from…"* (Community Dance Teacher). The teacher can bring their lesson plans and teaching methods to the class, but the curriculum needs to be negotiated with the dancers. By prioritising safe dance practices, teachers can

respond dynamically to the moment, tailoring the activities to best suit the dancers' diverse capabilities and foster an inclusive and engaging environment.

All participants agreed that the essence of dance for many students lies in the enjoyment, fun, and freedom to express oneself, "*I just like to have fun*" (10-year-old dancer with CP), "*fun definitely*" (Parent/Dancer/Music Teacher – Teacher Perspective). Creativity is an important component in dance to foster a sense of achievement, and it is often associated with well-being and success *"…in [the] creativity aspect, if they're having fun, then they're achieving something…"* (Studio Dance Teacher).

During the focus groups, the significance of including the dancer on their development journey and celebrating their efforts and persistence was emphasised, as it promotes their involvement, self-perception, and sense of accomplishment, *"[…] the sense of mastery comes in improvement, in overcoming, can be physical things, but it can also be overcoming [a] sense of fear that you used to have when you came into the class."* (Dance Movement Therapist). Setting "*field-based, participation-based*" (Dance Movement Therapist) goals in collaboration with the dancer, understanding their experience and involvement, and appreciating incremental progress are crucial. Working towards the right challenge and understanding that dance involves physical, artistic, and psychological factors, such as creative ability, motivation, and self-confidence, are key components.

Discussion

The purpose of this study was to identify factors influencing the inclusion of children with CP in community dance classes and describe strategies for facilitating their participation. Our findings indicate that families experience challenges finding local dance classes equipped with the necessary resources and knowledge to accommodate their needs, leaving them feeling overwhelmed and frustrated. This aligns with existing literature where attitudinal (related to insufficient disability awareness) and structural (such as accessibility) barriers, are

key contributors to non-participation in physical activities, such as dance, for children and youths with CP (Aujla & Redding, 2013; Aviram et al., 2022).

Our findings reinforce the need to shift towards inclusive practices and foster participation of children with CP in community activities. However, while recent studies suggest a growing interest in using dance as an intervention for people with CP (Cherriere et al., 2020b; Duarte Machado et al., 2023), the same cannot be said for community classes (Pontone et al., 2020). Even when dance classes were developed to address this gap, children with CP often participated alongside trained volunteers rather than peers (Millard et al., 2021; Poncet et al., 2024). True inclusive spaces bring together individuals with and without disabilities, fostering autonomy, connections, and social acceptance, resulting in meaningful interactions and lasting friendships (Smart et al., 2018).

Through the lenses of the fPRC (Imms et al., 2017), participation involves a dynamic process between the individuals with impairments and their environment (Granlund & Imms, 2024). Our study supports the need for substantial environmental, structural, and attitudinal changes to reduce barriers for children with CP in community dance classes. Upskilling community dance organisations and the workforce is crucial for implementing best practices disability inclusion and enhancing participation opportunities for children with CP in dance classes (Aujla & Redding, 2013).

Individual/personal factors were also strong drivers to participation and need to be addressed to facilitate inclusion. This is aligned with Urmston and Aujla (2019)'s work where success involves motivation, creativity, self-value and confidence, enabling the dancers to build on their dance skills. Similarly, the fPRC model recognises the importance of working towards the right challenge to foster a sense of achievement and self-competence (Morris et al., 2019; Nyquist et al., 2020). Developing a sense of achievement and identifying

the child's strengths are strategies suggested to facilitate participation of children with CP in inclusive dance classes.

To support the child's feeling of achievement and sense of self in community dance classes, dance teachers need to develop a strength-based approach, allowing the child to participate on their own terms (Arnell et al., 2022; McKenzie et al., 2023). As supported by the dance professional in this study, empowering the dancer's voice involves inviting them to actively participate in their learning journey. A child-led approach creates an autonomy-supportive environment that embraces their unique strengths and preferences (Shilcutt et al., 2021). This approach aligns with the "F-words" framework: Function, Family, Fitness, Fun, Friends (Rosenbaum & Gorter, 2012). The F-words is a strength-based framework that focuses on what the child can do and what matters most to them, the framework is strongly recommended to support people working with children with disability and their families (Rodrigues De Sousa Junior et al., 2023; Rosenbaum & Gorter, 2012).

The strategies developed in this study align with the fPRC model and fulfil all the F-words, ensuring a comprehensive approach to inclusion. Function was addressed through providing opportunities for dancers to showcase their abilities and accepting the unique movements they bring to the class. Family involvement, and valuing their lived experience was a crucial strategy to foster inclusion. Fitness was supported by offering diverse ways for dancers to engage in classes, promoting physical health and ability. Friends and Fun were identified as key facilitators of participation. Future was highlighted by including dancers on their development journey. These findings are consistent with the previous work by Rodrigues De Sousa Junior et al. (2023) where leisure-time physical activities were mapped to the F-words. For the children in this study, having fun with friends was perceived as a facilitator to their participation in dance classes, empirical findings have identified that fun

and friendship can enhance the child's motivation and preference (Rodrigues De Sousa Junior et al., 2023; Sivaratnam et al., 2020).

This study had strengths and limitations. There is very limited literature available relating to dance classes for children with CP (Duarte Machado et al., 2023). This paper is the first to investigate the barriers and facilitators influencing the participation of children with CP in inclusive dance classes and to provide strategies to enhance participation and inclusion. A qualitative design with in-depth focus groups and individual interviews was deemed the appropriate method to gain a deep understanding of the experiences of children with CP and their families in the context of dance. The involvement of dance professionals working in different areas (school, studios, community centres and clinics) provided diversity of experience and different lenses to explore the study questions. This depth of engagement resulted in detailed descriptions of the strategies to implement an inclusive dance approach for children with CP.

Limitations included the relatively small number of families and children involved. Despite efforts to recruit additional participants, only three families were interviewed, and this may impact the transferability of findings. This study did not seek to achieve data saturation as this is no longer current practice in reflexive thematic analysis (Braun & Clarke, 2019). Instead, researchers and the CAP made the decision on sample size based on the study aim, diversity of participant characteristics and their experience as knowledge users and/or persons with lived experience. The richness of the data and its comprehensive scope across two rounds of data collection undoubtedly enhanced the relevance and impact of the research (Diskin et al., 2022).

Conclusion

The themes generated from in-depth interviews, focus groups and collaboration with the CAP provided a framework to identify the strategies that enable the inclusion of children and

youth with CP in community dance classes. Effective implementation of these strategies requires collaborative efforts and attitudinal changes. Fundamentally, dance teachers need to build the capacity to understand the unique needs of the child and the family to adapt the classes and support lifelong changes. Theoretical frameworks, such as the fPRC and the F-words, can support the design of inclusive dance classes. For health professionals and community facilitators who support children with CP to participate in dance classes, recommendations include collaboration with families and relevant stakeholders, relationship with the dance community (including families and peers) and crafting activities tailored to the strengths of each child to ensure a sense of achievement and competence.

Chapter 4 Summary and Implications:

This qualitative study sought to better understand the values, priorities, and perspectives of children with cerebral palsy (CP), their families, and dance teachers in relation to dance classes. Through these discussions, a pressing concern emerged: the challenge of finding inclusive dance classes. Parents expressed uncertainties about the inclusivity and the skill set and knowledge of dance teachers to implement best practice disability inclusion. The findings from Chapter Four led to a pivotal shift in our research focus. Initially aimed at co-designing a specific dance intervention, the collective voices of participants and the CAP highlighted the need for a broader approach to promote inclusive practice in existing community dance classes.

Shaped by an advocacy-driven composition, with membership including a family member actively engaged in disability advocacy, the CAP were deeply committed to inclusion and steered this study to adopt a solutions-thinking approach. This process encouraged participants to identify practical strategies for fostering inclusion. Our findings suggested that a combination of accessible environments, inclusive culture, enjoyment, and

knowledgeable dance teachers can facilitate participation in community dance classes for individuals with CP.

One of the most powerful strategies identified to support dance teachers was the need for training, which was explicitly captured in Theme 1: Inclusive Curriculum. Participants advocated for workforce training to equip instructors with the skills and knowledge required to create inclusive environments where all participants, regardless of ability, can fully engage and participate in dance.

In addition, the development of inclusive dance environments was seen as a shared responsibility. Participants described the importance of collaborative support among recreation organisations, health services, clinicians, and families to foster the co-development of tools and the dissemination of knowledge that guide community dance classes. This was reflected in Theme 3: Relational Approach, which highlighted the value of partnership-based practices to share expertise and build inclusive cultures. Such cross-sector collaboration is essential to ensuring that inclusive dance programs are not only implemented but sustained. These educational tools were considered critical to facilitating positive participation experiences for children with CP in community-based settings.

Part Two: Practice Innovation – Co-designing a dance approach, the change in paradigm.

Part One (Chapters 3 and 4) of this doctoral research project set the stage for Part Two (Chapter 5), which will focus on a series of workshops to co-develop an inclusive dance approach guide. As a result of Part One, a practical checklist (Appendix G) comprising of thirty strategies to promote inclusion and assist families in identifying inclusive dance classes was developed. This checklist was used as the basis for the co-design workshop discussions. The goal of these workshops was to collaboratively create a comprehensive guide that empowered dance teachers to establish inclusive dance environments for children with CP. This guide aims to provide practical strategies and tools that support dance instructors in fostering inclusive dance classes that cater to the diverse needs of all participants. By addressing the identified barriers and implementing the recommended strategies, the guide aspires to enhance the accessibility and effectiveness of dance classes, ultimately promoting inclusivity within the community.

Chapter 5. Practice Innovation – A practical guide for the inclusion of children with Cerebral Palsy in community-based dance classes.

Preface

The findings of Part One of this doctoral thesis highlighted the need for a shift towards participation-focused dance classes and a more collaborative, participatory approach involving knowledge users. A key insight was to prioritise inclusion by focusing on community dance classes rather than structured "programs" or "interventions." This shift revealed a significant gap in resources and training for dance teachers to facilitate inclusive practices effectively. Consequently, the research focus pivoted: rather than developing a new dance intervention, it became evident that equipping dance teachers with practical, adaptable

resources to support inclusion within community-based classes was essential.

This chapter details the co-design process for a comprehensive, user-friendly guide created to empower dance teachers with strategies and frameworks to promote inclusive dance. Guided by the International Association for Public Participation (IAP2) framework, this project reached the "collaborate" and "empower" levels, engaging knowledge users directly in decision-making (Banner et al., 2019). Knowledge users were granted full access to data and other relevant resources, enabling them to make informed decisions that influenced the direction of the research. This approach represents a fundamental shift towards recognising knowledge users as co-researchers whose insights shaped each phase of the guide's development.

Informed by the findings of the Systematic Review and Focus Group study, the co-design process included two phases. Phase One consisted of a series of co-design workshops to create the guide, with multiple cycles of co-creation and internal review. Phase Two gathered external feedback from Dance Teacher Reviewers, assessing the guide's usability, acceptability, and applicability to refine its content for practical implementation.

The manuscript that follows, co-authored with the co-design team for peer-review submission, addresses aims 4 and 5 of this doctoral program, full citation is provided below: **Duarte Machado, E.**, Miller, L., Nicholas, J., Cross, J., Orr, R., & Cole, M. H. (2025). Developing an Inclusive Dance Guide for Children With Cerebral Palsy: A Co-Design Process and Initial Feasibility Study. *Health Expect*, *28*(3), e70304. https://doi.org/10.1111/hex.70304.

Abstract

Background: Participation in community activities has shown positive outcomes for all children, yet those with cerebral palsy (CP) still experience varying levels of inclusion. This study aimed to address the challenges faced by families of children with CP in accessing community-based dance classes by co-designing a practical guide to support their inclusion. **Design:** The guide was developed through a collaborative process involving academic researchers, dance professionals, therapists, and families of children with CP. The co-design phase was guided by the International Association for Public Participation (IAP2), workshops were conducted with eleven research partners, including two parents of children with CP, two community dance teachers, two therapists with experience in dance interventions, and five academic researchers. Feedback from "Dance Teacher Reviewers" who were not involved in the co-design was also incorporated to support the guide's initial feasibility. **Results:** The collaborative efforts resulted in an evidence-based guide shaped by lived experiences. It provides actionable strategies to implement inclusive dance approaches effectively, supporting the inclusion of children with CP in community dance settings. **Conclusion:** The co-designed guide represents a significant step toward facilitating inclusive dance classes for children with CP. Future research should explore the guide's effectiveness and feasibility of implementation across various community settings to ensure its broader applicability and impact. **Patient or Public Contribution:** Parents of children with CP, dance teachers, and therapists actively contributed to all stages of this study, from public consultation to collaborative co-design workshops, decision making, review and refinement of the guide.

Keywords: Cerebral Palsy; Inclusive Dance; Co-Design

What this paper adds:

- Expands the concept of participation-focused programs, emphasising the importance of creating inclusive environments in community-based activities for children with CP.

- Highlights the co-design approach with knowledge users to address practical challenges and gaps in inclusive dance practices, ensuring the guide meets real-world needs.
- Provides practical tools and frameworks to support dance teachers and community facilitators to foster autonomy, creativity, and social engagement for children with disabilities, aligning with contemporary theories of inclusion.

Background

Regular participation in physical activity has consistently been associated with positive physical, social, and emotional outcomes (Moon et al., 2024; Purgato et al., 2024). However, for children with cerebral palsy (CP), achieving these outcomes often requires careful consideration of their unique needs and individualised adaptations (McKenzie et al., 2023; Stroobach et al., 2022). Dance has emerged as a promising activity to promote physical activity, social inclusion, and community connection (dos Santos et al., 2021; Duarte Machado et al., 2023). For children with CP, inclusive dance provides opportunities to challenge societal perceptions of disability and fosters an environment where children with and without disabilities can learn together (Lentzari et al., 2023; Levy et al., 2017). Furthermore, families are increasingly seeking community-based activities like dance that prioritise meaningful participation with peers over segregation or therapy-focused integration (Gilmore & Wotherspoon, 2021; Smart et al., 2018).

Despite growing evidence supporting the benefits of dance for children with CP, there remain significant barriers to full participation and inclusion (Abid et al., 2023; Aujla & Redding, 2013). These include, for example, ableist attitudes, inaccessible facilities, and limited training for dance teachers (Abid et al., 2023; Jeanes et al., 2018b). A recent systematic review mapped participation outcomes of dance to the Family of Participation-Related Constructs (fPRC), highlighting that dance can positively influence both intrinsic

factors (activity competence, sense of self, preferences) and extrinsic factors (person-environment interactions) for people with CP (Duarte Machado et al., 2023; Imms et al., 2017). However, to achieve meaningful, participation-focused outcomes, it was recommended, rehabilitation professionals should collaborate and partner with knowledge users to understand and address their goals and challenges when participating in dance (Duarte Machado et al., 2023). This effort includes developing training programs for dance teachers that emphasise strategies to promote a deeper understanding of the unique needs of children with CP (Aujla & Redding, 2013; Millard et al., 2021).

To date, there has been limited involvement of knowledge users, including children with CP, their parents, and caregivers, in the development of inclusive dance classes that focus on participation, particularly in community settings (Duarte Machado et al., 2023; Poncet et al., 2024), despite evidence demonstrating its importance for improved and impactful outcomes (Cavens et al., 2022; Headrick et al., 2023). Authentic knowledge user engagement in research that empowers knowledge users as research partners has become increasingly recognised as essential for ensuring that research outcomes are relevant, effective, and reflective of their needs (Raynor et al., 2020; Wiles et al., 2022). Such collaboration helps ensure strategies for inclusion are evidence-based, sustainable, and adaptable to real-world contexts (Banner et al., 2019; Wiles et al., 2022). This participatory approach represents a shift from traditional models, where children and their families assumed passive roles in research, to active roles as partners in the study design, implementation and dissemination, thereby enhancing the relevance and impact of the research (Cavens et al., 2022; Freire et al., 2022; Headrick et al., 2023).

This paper provides a detailed description of the co-design process undertaken to develop an inclusive dance approach guide. The guide aims to support the inclusion of children with CP in community-based dance classes so they can participate with their peers.

The co-design process was structured in three key stages - sequential focus groups; iterative co-design workshops; and initial feasibility appraisal of the guide's content. This process emphasised the importance of creating a genuine partnership, enabling participants to contribute at different levels of the International Association for Public Participation (IAP2), as decided by them, with the team committed to equally hearing, respecting, and incorporating everyone's contributions throughout the design of the guide (Coulston et al., 2024; Miller et al., 2022). This approach aligns with co-design principles, which aim to democratise research and ensure outputs reflect participants' needs and experiences (Coulston et al., 2024; Pallesen et al., 2020). The aims of this study were to; i) co-design a practical guide to support the inclusion of children with CP in community-based dance classes; and ii) explore the initial feasibility of the guide's content, focusing on its acceptability, demand, and sensibility, through independent external user consultation.

Methodology

Definitions

In this work, the term "knowledge user" (also referred to as end-user, consumers, stakeholder, or PPI in other frameworks) refers to children with CP, their parents/caregivers, service providers, and dance/physical education teachers involved in community or school dance classes. This term broadens the scope and role of participants, to encompass a diverse range of stakeholders (Nguyen et al., 2020). Moreover, in line with the social model of disability, children with CP are referred to as dancers throughout the guide, emphasising their active participation and identity as a dancer (Browne & Dorris, 2022).

The authors also acknowledge the inconsistency across academia, non-government organisations, and civil society regarding the definition of inclusion (Smart et al., 2018; Spivakovsky et al., 2023). Inclusion is frequently confused with integration and community presence, which primarily focus on physical location rather than meaningful engagement

(Spivakovsky et al., 2023). Many studies use these terms interchangeably without providing clear definitions, which contributes to ongoing confusion about what constitutes true inclusion (Smart et al., 2018). For the purposes of this study, inclusion is defined as creating an environment where children with disabilities can fully and actively participate alongside their peers, with the necessary modifications and supports that ensure meaningful engagement, fostering a sense of belonging and equitable access to opportunities (Haynes et al., 2024; Smart et al., 2018).

Overview

Participatory action research (PAR) was the overarching methodology used to facilitate evidence-based co-development of the "Co-Designed Inclusive Dance Approach Guide – Inclusion of Children with Cerebral Palsy" (Ghaye et al., 2008; Leask et al., 2019). PAR focuses on authentic partnership and collaboration, celebrating the experiences and efforts of democratic peer relationships where participants affirm their right and ability to have a say in decision making processes (Ghaye et al., 2008). Specifically, we employed ***Integrated knowledge translation*** (iKT) (Boland et al., 2020) and ***Partnership-focussed Principles-driven Online co-Design*** (P-POD) (Coulston et al., 2024), two collaborative approaches that integrate both researchers and knowledge users as integral members of the research team to co-create, implement and evaluate projects (Boland et al., 2020; Coulston et al., 2024). This study was also guided by the International Association for Public Participation (IAP2) ***Spectrum of Public Participation*** model, which aims to improve public participation in research and presents a tangible and practical scale with the pillar of public engagement (Banner et al., 2019; McNeill et al., 2021).

The guide was developed through a multiphase and iterative co-design process (Figure 12), initially informed by a recently published systematic review (Phase One) (Duarte Machado et al., 2023). Phase Two involved a Consumer Advisory Panel (CAP) and public

consultations. The CAP provided ongoing input to research development, including recruitment strategies, data collection questions, data analysis, and outputs for publication (currently under review). Focus groups and interview participants included: (i) children with CP aged 7 and older, (ii) their families, (iii) parents of children under 7, (iv) dance teachers and (v) health professionals. The perspectives and lived experiences of this diverse group of knowledge users, together with peer reviewed evidence, informed the strategies and resources developed in the co-design workshops in Phase Three. Details of the CAP's structure and role are outlined in the GRIPP-2 form (Table 1) (Staniszewska et al., 2017).

The current paper focuses on Phases Three and Four of the co-design process, which included: i) a series of co-design workshops to develop the guide, involving 5 rounds of co-creation; ii) internal iterative review by the co-design team; and iii) external review of the guide's content by a group of independent "Dance Teacher Reviewers", who had no prior exposure to the guide. This study received ethical approval from the Australian Catholic University's Human Research Ethics Committee (HREC) (Application ID: 2021-302H) (Appendix H).

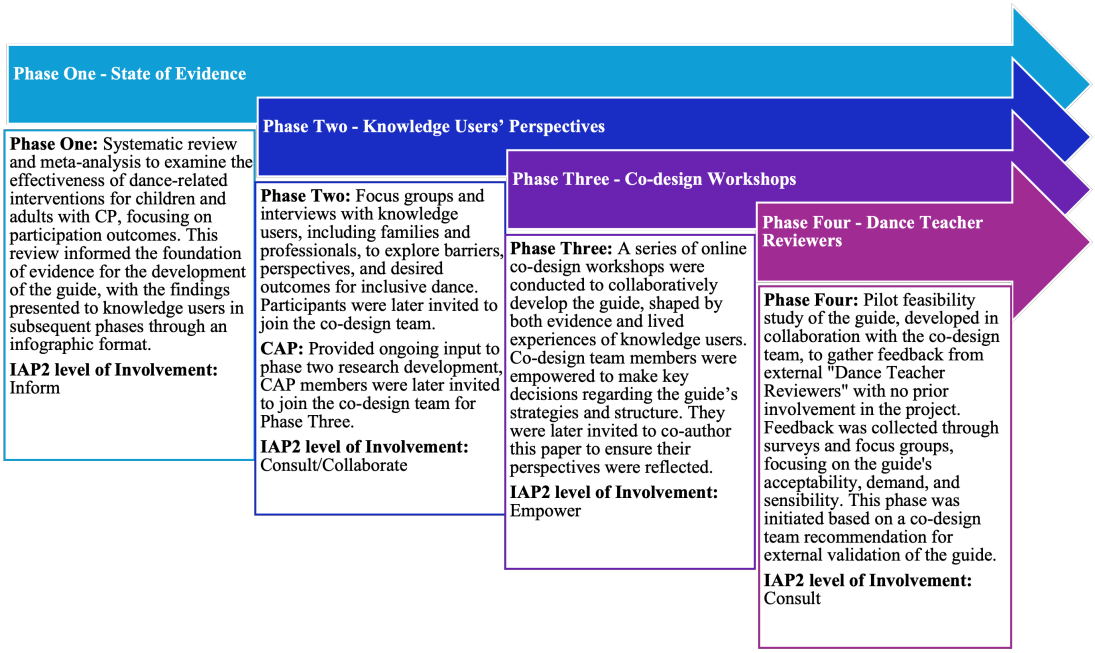


Figure 12. Multiphase and iterative co-design process: knowledge user involvement in each phase and its level of engagement on the IAP2 Spectrum of Public Participation

Establishing a collaborative partnership with knowledge users

Phase Three - Convenience sampling was used to recruit 10-12 research partners to form the co-design team. While co-design and qualitative research have no strict guidelines for sample sizes, the literature suggests that 6 to 12 participants provide an effective balance (Leask et al., 2019; Miller et al., 2022). This cohort size supports interactive discussions, allows for subgroup work, and provides flexibility to account for potential dropouts, ensuring a balance between depth of collaboration and manageability in co-design settings (Leask et al., 2019). Knowledge users from previous phases (members of the CAP and Phase Two participants) were invited to collaborate in Phase Three. Although the developed guide primarily targets school-age children with CP, the involvement of parents of children under 7 and young adults with CP was recommended by the CAP during Phase Two. This broader inclusion aimed to capture lived experiences and diverse perspectives on the barriers and facilitators of raising and supporting a young dancer with CP through childhood into young adulthood.

Phase Four - Five dance teachers from community-based or school-based dance classes, who had not participated in any previous phases of the co-design, including the CAP, were purposively selected to review the guide. Recruitment focused on dance teachers with different levels of experience and from diverse dance genres and teaching areas (e.g. community, private, school-based), ensuring a broad range of perspectives relevant to the guide's intended implementation (Thompson Burdine et al., 2021). All participants were individually recruited through the networks of the research team and the Consumer Advisory Panel.

Phase Three Co-design Workshops

Phase Three consisted of two key parts: orientation and education of the co-design team, followed by a series of collaborative co-design workshops. The initial orientation focused on equipping knowledge users and researchers with the necessary tools and frameworks for meaningful engagement, while the workshops involved iterative collaboration to co-design and refine the guide through feedback and discussion.

Orientation and education

To support research partners in the co-design process during workshop 1, partners received orientation regarding their involvement in research utilising knowledge translation tools from CanChild's ***Family Engagement in Research (FER) program*** (CanChild). The FER program offers tools that use child and family-friendly language to help participants become familiar with the co-design process and its objectives (Pallesen et al., 2020; Pozniak et al., 2021). Core tools included the FER Engagement & Self-Reflection Tool (including goal setting, check-in, and facilitation guide) and the FER: A Conversation Guide. To ensure that these frameworks were implemented effectively, the lead researcher completed the FER Course (https://www.canchild.ca/en/research-in-practice/family-engagement-program/fer-course).

Collaborative co-design workshops

A series of six group-based co-design workshops (Figure 13) were conducted online via Zoom to facilitate participation across different schedules and locations. Email exchanges allowed for ongoing collaboration and feedback between sessions, ensuring flexibility. The first workshop discussed the results of the systematic review (Phase One) and focus groups/ interviews (Phase Two). Subsequently, workshops 2 to 5 mapped the purpose and structure, focusing on identifying and critically reviewing relevant information and resources based on the suggestions, needs and experiences of knowledge users. Strategies were iteratively developed, with discussion and feedback from the co-design team recorded, considered, and integrated into the next workshop.

Following the fifth workshop, the guide underwent an internal review phase where members of the co-design team were given one month to thoroughly review and assess strategies for inclusion, the tools and resources used, and the guide's interface, considering its application in real-world dance contexts. Feedback was provided via email and during the final workshop to ensure that the perspectives of all team members were accurately reflected.

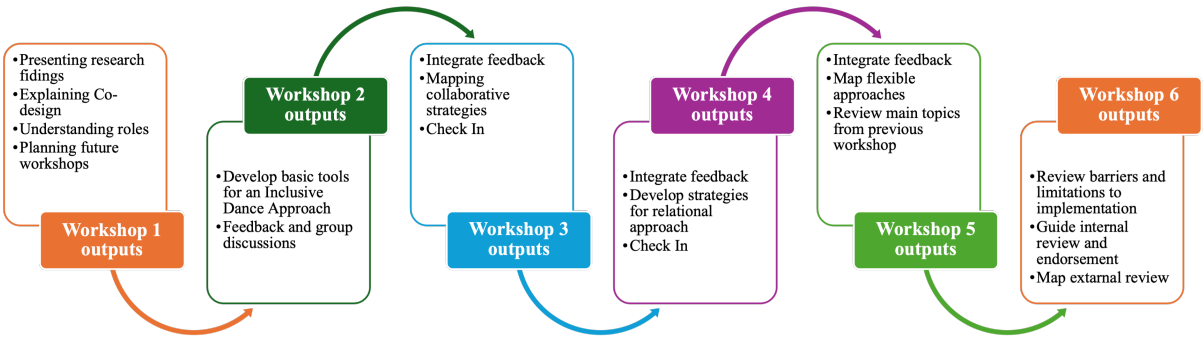


Figure 13. Co-design workshops process for co-creation of the guide.

Co-design engagement plan

Once the partnership was established, the FER Goal Setting (Appendix I) tool was used to discuss project hopes, goals, and expectations (Manafo et al., 2018; Mendell & Richardson, 2021). A team charter (Appendix J) was developed to outline roles and communication channels ensuring clarity and alignment from the outset (Headrick et al., 2023; Micsinszki et al., 2022). The Involvement Matrix (Appendix K) provided autonomy to research partners, enabling them to choose diverse roles throughout the co-design workshops, such as Listener, Co-thinker, Advisor, Partner, and Decision-maker (Pozniak et al., 2022; Smits et al., 2020). Regular check-ins (Appendix L) allowed partners to review their involvement, adjust roles as needed, and receive feedback on their contributions (Headrick et al., 2023; Pozniak et al., 2022). These steps were designed to foster a collaborative environment, balancing power dynamics and ensuring active and meaningful participation from all stakeholders.

Workshop agendas, along with supporting documents and suggested resources, were prepared as facilitation resources for knowledge users to provide sufficient time for reflection, idea generation, and planning prior to each workshop (Micsinszki et al., 2023). Questions from the ***FER Team Discussion Facilitation Guide*** (Appendix M) and ***FER: A Conversation Guide*** (Appendix N) were incorporated and adapted throughout the workshops to facilitate group discussion. The success of the working relationship between the researchers and knowledge users was contingent on strong communication and interpersonal skills, as well as facilitation skills (Headrick et al., 2023; Micsinszki et al., 2023).

Phase Four Initial Feasibility of the "Co-Designed Inclusive Dance Approach Guide – Inclusion of Children with Cerebral Palsy"

To explore the guide's initial feasibility, we employed a broader, bottom-up approach, as recommended by knowledge users, to address practical concerns such as whether the guide would be attractive to community-based dance teachers or suitable for regular use by people

with diverse dance experience and teaching qualifications, questions often overlooked in traditional top-down approaches (Chen, 2016). The initial feasibility of the guide was evaluated using an explanatory sequential mixed methods design, aligned with the early stages of Bowen's feasibility framework (Bowen et al., 2009; Dolan et al., 2023), focusing on whether the guide "can work" by gathering contextual insights on acceptability, demand, and sensibility. Although the sample size was limited to five "Dance Teacher Reviewers", purpose-driven samples can provide valuable qualitative insights during early feasibility stages, particularly when iterative and participatory approaches are employed (Bowen et al., 2009; Chan et al., 2021).

Data were collected through a study specific online survey that captured both quantitative and qualitative data, followed by semi-structured focus group (Bowen et al., 2009; Giannini et al., 2022; Miller et al., 2022). The survey and focus group questions were designed by the research team and included feedback from the co-design team, provided in Appendices O and P. These questions were grounded in Bowen's feasibility framework, focusing on acceptability and demand (Bowen et al., 2009). Acceptability was measured by examining dance teachers' satisfaction with the guide, their intent to continue using it, and its perceived fit within their organisational culture. Demand was assessed through both the actual use of the guide, expressed interest in it, and the perceived need for the guide. Additionally, Feinstein's Evaluation of Sensibility model was used as a critical first step in evaluating the guide, covering multiple constructs such as the guide's format, face and content validity, and ease of use (Giannini et al., 2022; O'Brien et al., 2013). Quantitative data were analysed using descriptive statistics to summarise participants' responses. Qualitative data were analysed using both inductive and deductive approaches. Deductive codes were generated from Bowen's framework to assess initial feasibility outcomes, while

Feinstein's sensibility model further examined the guide's relevance, clarity, and practical application for dance teachers (Feinstein, 1987).

Results

Phase Three

Six 90-minute online co-design workshops were conducted between October 2023 and January 2024, including an internal review phase before sending the guide for external review (Phase Four). The co-design team collectively endorsed the guide, confirming its readiness for external review. This collaborative effort resulted in the development of the co-designed guide titled, "Co-Designed Inclusive Dance Approach Guide – Inclusion of Children with Cerebral Palsy" (Appendix Q).

Co-design team characteristics

Eleven people took part in the co-design process, including parents supporting people with CP to engage in dance (n = 2), dance teachers (n = 2), and health professionals (n = 2), and researchers (n = 5). While the guide is designed primarily for children with CP, perspectives from both children and parents were foundational to its development, particularly those gathered through interviews during Phase Two. The co-design team included parents with diverse experiences, those who had advocated for their child's inclusion in community activities over many years and had finally found inclusion despite accessibility challenges and those currently supporting younger children navigating dance therapy while still seeking inclusion in community dance. These perspectives offered crucial insights into both long-term advocacy and the immediate barriers to participation.

The dance teachers included a ballet dancer experienced in teaching dance to older individuals with disabilities and a studio dance teacher with experience in teaching dance to children three to ten years old. The clinical team comprised a paediatric occupational

therapist with experience in dance therapy and a dance movement therapist with a background in occupational therapy.

The academic team included five researchers with diverse backgrounds and expertise: JN, a dance and exercise scientist with expertise in translating research findings to practitioners, industry, and the community; EDM, the project lead and workshop facilitator, a physiotherapist with a background in child development and wheelchair dance programs; LM, who provided facilitation support during the workshops, bringing 20 years of experience in paediatric rehabilitation, family engagement, CP, and participation; MC, an exercise scientist with expertise in biomechanics, neuroscience, and high-technology systems for assessing balance, mobility, and neuromuscular function; and PH, who contributed 30 years of experience leading motor and cognitive development projects. All researchers had prior experience with qualitative and mixed-methods research, significantly enriching the co-design process.

Guide format and structure

The guide was designed with a user-friendly PDF format, with written content, photos, and links to external resources, such as videos and websites. This approach enhances engagement, through easy navigation, and comprehension, accommodating diverse learning styles. It begins with an overview that explains the holistic and interconnected nature of each chapter. The guide is organised into four chapters that form a cohesive narrative towards a comprehensive understanding of inclusivity in dance practices, as illustrated in Figure 14.

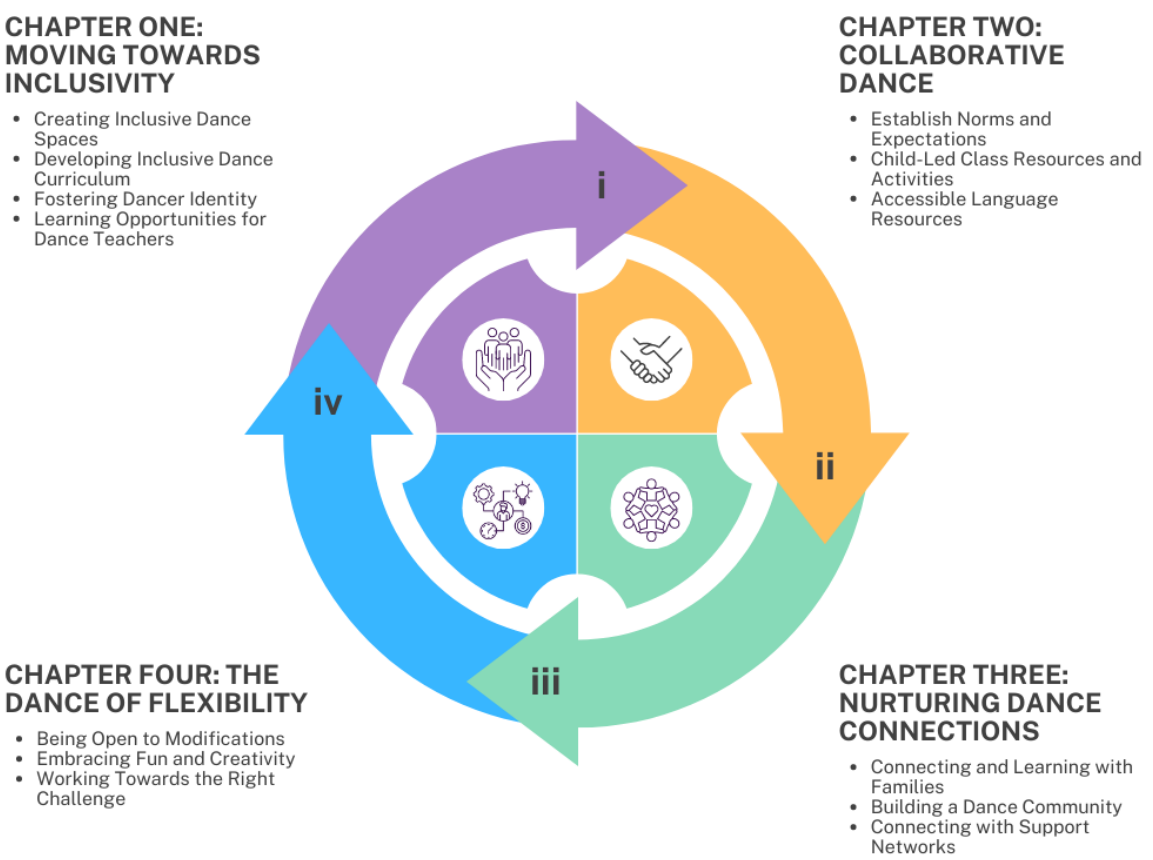


Figure 14. Diagram detailing the approach taken for each chapter of the guide and their interconnectedness

Each chapter starts with a descriptive overview, providing background and context for the proposed strategies within an inclusive dance practice. The chapters end with a list of core and additional resources to support the implementation of these strategies. Table 7 provides a brief overview and examples of the guide. Importantly, the guide encourages users to adapt the strategies to their specific contexts, considering their experiences, practices, and the needs of the children and families they work with.

The content was co-developed and refined by the co-design team through an iterative process during the workshops. The lead author compiled and structured the guide based on the strategies identified, while co-design team members offered ongoing feedback and endorsement, to ensure it accurately reflected their contributions and insights.

Table 7 Overview of the "Co-Designed Inclusive Dance Approach Guide – Inclusion of Children with Cerebral Palsy" Chapters and Resources.

Chapter Sections	Resources & Strategies
Chapter 1: Moving Towards Inclusivity	
Creating Inclusive Dance Spaces	• Environmental and structural changes to ensure inclusion, resources such as Accessible Arts Starter Kit are recommended
Developing Inclusive Dance Curriculum	• Methodologies aimed at fostering inclusion, such as Universal Design for Learning (UDL)
Fostering Dancer Identity	• Tools and strategies to promote attitudinal changes and identity formation, such as videos of dancers with different abilities.
Learning Opportunities for Dance Teachers	• Empowering dance teachers with knowledge and tools to promote inclusivity; podcasts, webinars and professional development recommended
Chapter 2: Collaborative Dance	
Establish Norms and Expectations	• Establishing a culture of respect and acceptance, tools such as the F-words framework and the Conversations for Collaboration framework are recommended
Child-Led Class Resources and Activities	• Encouraging child-led approaches and co-creation. Conversations for Collaboration tools for student-centred approach.
Accessible Language Resources	• Improving communication to ensure inclusivity, videos with recommendations on communication and visual schedules
Chapter 3: Nurturing Dance Connections	
Connecting and Learning with Families	• Focus is on fostering positive relationships between teachers and families: warm greetings, casual conversations, welcoming body language, regular email updates, and relaxed interactions are effective strategies for relationship building.
Building a Dance Community	• Early Years Learning Framework highlights the importance of fostering a sense of belonging and connection among children
Connecting with Support Networks	• The Conversations for Collaboration tools can be used to facilitate the communication between dance teachers and support staff
Chapter 4: The dance of flexibility	
Being Open to Modifications	• Approaches like CO-OP, Layering, and the FAMME model will ensure dancers collaborate on a guided discovery of new movements and find their way to move
Embracing Fun and Creativity	• Integrating less structured exercises and embracing the play and joyful aspects of dance while exploring movement skills. Creativity is an important component in dance to foster one's sense of achievement and it is often associated with well-being and success.
Working Towards the Right Challenge	• Setting realistic goals and understanding talent in dance, considering physical, artistic, and psychological factors. The Family of Participation-Related Constructs (fPRC) can guide goal setting and challenge adjustment for individual dancers.

Phase Four

Guide review

Following the co-design process, five "Dance Teacher Reviewers", working in community-based dance classes in Australia, provided survey data with feedback on the guide, while four (80%) of the reviewers also participated in a focus group. The fifth reviewer was unable to attend due to scheduling conflicts but had expressed their views comprehensively in the survey. Participant characteristics are presented in Table 8, with limited information provided to protect participants' identities. Reflective discussions during the focus groups, along with survey responses, highlighted the guide's acceptability, sensibility, and demand. "Dance Teacher Reviewers" found the guide to be both relevant and useful to their practices. In the survey, all participants indicated they would be likely to use the guide in their dance practice (Table 9). Additionally, four participants agreed, and one strongly agreed, that the guide's resources could be easily adapted and implemented within their organisations (Table 10), *"I think overall, really good, and will be quite easy to implement"* (P2).

Table 8 Dance Teacher Reviewers' demographics

Variables	Number
Professional experience	
School dance teacher	1
Ballet dance teacher	2
Tap dance teacher	1
Acrobat dance teacher	1
Australian Geographic Location	
Metropolitan	4
Regional	1
Years of Experience	
<10 years	2
>10 years	3

Table 9 Dance Teacher Reviewers' use and adoption of the guide.

Yes/No Questions	Yes (N = 5)	No (N = 5)
Would you need help in understanding how to use the resources?	0	5
Having been introduced to the guide, would you be likely to use the inclusive dance approach in your dance practice?	5	0
Do you already use some of the resources suggested in the guide in your dance practice to support inclusivity?	4	1

Table 10 Dance Teacher Reviewers' ratings on the guide's presentation, content and resources.

Statement	Strongly disagree N = 5	Disagree N = 5	No opinion N = 5	Agree N = 5	Strongly agree N = 5
Presentation and content of the guide					
The guide is relevant and useful for my dance practice.	0	0	0	4	1
The language used in the guide is easy to understand.	0	0	0	0	5
The format of the guide is comprehensive.	0	0	0	0	5
The format of the guide is easy to follow.	0	0	0	2	3
Supporting resources and readings suggested in the guide					

I could easily use the resources to improve inclusivity in my dance practice.	0	0	0	3	2
I could easily use the resources to plan and develop my activities.	0	0	1	3	1
I could easily use the tools to identify opportunities for dancers to engage in activities.	0	0	0	3	2
I could easily adapt and implement the resources.	0	0	0	4	1
I found the resources were helpful to assess the quality and impact of my initiatives.	0	0	1	2	2

Demand

The need for the guide was evident both in the survey responses and themes that emerged from focus group discussions. All “Dance Teacher Reviewers” expressed their intent to continue using the guide's resources, and four of them indicated in the survey (Table 10) they were already familiar with some of the suggested resources, such as the Universal Design for Learning (UDL) framework, layering strategies, and elements of the Cognitive Orientation to daily Occupational Performance (CO-OP) approach. One “Dance Teacher Reviewers” was not familiar with any of the guides resources.

> *“[…] for my kids at school next term, they do a whole unit on social dance […] and for some of my students who need additional needs that can create barriers for them to participate. So, I think those vision boards and brainstorming […] are definitely something I'll be, […], trying with some of those students to see how they work in application for them”* (P3)

During the focus group, “Dance Teacher Reviewers” also highlighted the importance of a training program to support the guide’s implementation. They expressed that such a program would not only build their confidence in using the strategies and resources recommended by the guide but also foster a community of like-minded professionals. The consensus was that such a training program would provide both the knowledge needed to effectively use the guide and a supportive network to sustain ongoing collaboration and development.

> *"If you do a training course, you are usually with other people and then you get this network as well. [...] any time you do a training, you should connect with somebody, because that's absolute gold to bounce ideas off. It's a like-minded person that's doing the training as well for a reason, because it's obviously relevant to them"* (P4)

Acceptability of the guide

All four of the “Dance Teacher Reviewers” involved in the focus group expressed satisfaction with the guide, with one commenting. The perceived appropriateness of the guide's content was also reflected in the survey results, where two participants strongly

agreed, and three agreed, that they could easily use the tools to identify opportunities for dancers to engage in activities (Table 10). During the focus group, participants highlighted that tools such as the F-words framework would be easy to implement.

> *"Coming from more of a studio context in a very, I would say, casual dance school, we're not very high performance that we don't see our students for more than maybe 40 min [to] an hour a week. I really liked the F-words and the proformas and the goal setting"* (P1)

Although all four dance teachers involved in the focus group agreed that the guide would align with their organisations' values, they identified a potential cultural barrier that could hinder its implementation. They expressed concern that parents of children without disabilities might pose the biggest challenge, as one participant mentioned.

> *"I think that it [the barrier] wouldn't be the organisation, or the teachers, or even the other students in the class, or the parents who are bringing children with disabilities. It's going to be the parents whose child doesn't have a barrier and them feeling, whatever they're feeling, I think that would be the biggest concern."* (P3)

While the guide was well-received and deemed appropriate, "Dance Teacher Reviewers" stated that addressing the ableist culture within the dance community and among families would be crucial for successful implementation.

Guide Sensibility

All five "Dance Teacher Reviewers" had a positive overall impression of the guide, they agreed the format of the guide was comprehensive and the language used in the guide was easy to understand (Table 10), *"I thought it was really well set out, and I really enjoyed it."* (P1). Despite this positive feedback, there were some recommendations for enhancing the guide's format, particularly in relation to navigation. "Dance Teacher Reviewers" suggested incorporating solid-coloured banners at the top of the pages to clearly delineate chapters, which would facilitate easier navigation.

> *"The only thing in terms of coloured banners or the chapters […]. I found sometimes when I was scrolling between [chapters], […] I want to go back*

> *to Chapter 2, or I want to go down to Chapter 3, that's probably where I found sometimes getting a bit confused."* (P3)

Regarding the guide's content, reviewers found it highly relevant and comprehensive for supporting inclusive dance practices. During the focus group discussion, they suggested including examples or short vignettes to provide concrete ways to implement the guide's recommendations.

> *"I teach with a lot of assistant teachers, who might not have as much experience or background with teaching kids, especially kids with additional needs. So, having really solid examples of like language use or questions to ask, I think would be really helpful for applying [it] with those assistant teachers as well as us teachers."* (P1)

Overall, the guide sensibility was praised for being easy to follow, with straightforward and easy to understand language and highly relevant and comprehensive content.

Discussion

The "Co-Designed Inclusive Dance Approach Guide – Inclusion of Children with Cerebral Palsy" was developed from a robust collaboration between knowledge users and researchers, employing a rigorous interactive methodology committed to co-creation and participatory action research (PAR) principles (Coulston et al., 2024; Leask et al., 2019; Raynor et al., 2020). This approach is critical in developing tools that are both relevant and sustainable in real-world contexts, ensuring that the outputs genuinely reflect the participants' needs and experiences (Deane et al., 2019; Leask et al., 2019). The guide addresses a significant gap in resources tailored to enhancing the participation of children with CP in community-based dance classes, responding to a clear demand for inclusive practices (Cameron et al., 2023; Mantilla et al., 2022).

The guide seeks to meet the identified need for a practical, user-friendly tool, aimed at enhancing the accessibility and fostering the participation of children with CP in community-based dance classes. This aligns with the current shift towards inclusive practices and

participation in community activities (Dauenhauer & Stoepker, 2022; Smart et al., 2018; van Engelen et al., 2021). In Australia, the recent Disability Royal Commission (DRC) (2023) proposed changes to laws, policies, structures, and practices to foster a more inclusive and equitable society that supports the independence of people with disabilities. Among the 222 recommendations was the advocacy for transitioning towards inclusive education and implementing substantial reforms to the mainstream systems to eliminate barriers to access and promote meaningful inclusion (CoA, 2023).

In response to the disconnect between policy goals and real-world outcomes, the guide contributes to workforce upskilling and the creation of inclusive environments in the dance sector, which has often been influenced by ableist culture (Aujla & Redding, 2013), where societal norms and expectations prioritise able-bodied individuals, emphasising conventional performance and traditional aesthetics over creativity, motivation, and self-confidence, limiting opportunities for children with CP to express themselves and develop alongside their peers (Jeanes et al., 2018b; Urmston & Aujla, 2019). The guide advocates for inclusive spaces where children with disabilities can participate fully and shape the art form through their unique contributions, shifting the narrative from mere presence to meaningful engagement (Fortin et al., 2021). It also promotes the importance of placing dancers with disabilities, such as CP, in leadership roles to challenge societal attitudes and advance inclusion (Hanlon & Taylor, 2022; Haynes et al., 2024). By offering practical strategies and fostering cross-sector partnerships, the guide addresses the need for structured training for dance teachers to adapt activities for children with CP (Comella et al., 2019; Mantilla et al., 2022). This aligns with broader calls for professional development to enhance inclusive practices and ensure children with CP can thrive in community activities (McKenzie et al., 2023; Morris et al., 2019).

Furthermore, the guide was positively received by dance teachers, who found it highly relevant and useful for their practices. This positive reception is largely attributed to the guide's strong foundation in contemporary evidence from the paediatric healthcare and education sectors, drawing from well-established theoretical frameworks such as the Self-Determination Theory (SDT), the Family of Participation-Related Constructs (fPRC), the F-words framework, and the Early Years Learning Framework for Australia: Belonging, Being Becoming (Deci & Ryan, 2012; DEEWR, 2009; Imms et al., 2017; Rosenbaum & Gorter, 2012). These frameworks are integral to the guide's design, ensuring that the tools provided are effective, evidence-based, and aligned with best practices in childhood development (Deci & Ryan, 2012; Granlund & Imms, 2024; Mantilla et al., 2022; Rosenbaum, 2021).

The interconnectedness of the guide's chapters and tools facilitates ease of use and reproducibility across different contexts; thus, familiarity with one tool is easily translated to another. As highlighted by Morris et al. (2019), factors such as enjoyment, relatedness, competence, and autonomy are crucial in sustaining participation in physical activities among adolescents with CP. The guide's emphasis on these elements, particularly through the incorporation of the fPRC and the F-words frameworks, promotes autonomy, individual strengths, social skills, creative ability, and self-confidence (Granlund & Imms, 2024; Rosenbaum et al., 2024). This holistic approach, which also draws on contemporary concepts such as the expanded notion of health and functioning, aligns with the goals of inclusive education and community participation, highlighting the process of being, becoming and belonging (Kristén et al., 2020; Rosenbaum et al., 2024; Urmston & Aujla, 2019).

Implications of findings and future research

A significant strength of this study is the collaborative and participatory approach used to develop the guide, which ensured that it is both relevant and practical for knowledge users. The co-design process, involving knowledge users such as children with CP, their families,

and dance teachers, ensured that the guide meets real-world needs and addresses the practical challenges of fostering inclusive practices in community-based dance programs.

The tools utilised in the guide were drawn from existing resources commonly found in the health and education sectors, despite the lack of specificity to dance and immediate familiarity to all dance teachers, the feedback from the "Dance Teacher Reviewers" indicated that the guide was easy to understand and thought it could be implement across a variety of contexts. This cross-sector collaboration ensures a more holistic approach, integrating the expertise of health professionals, educators, and community leaders to create inclusive environments that are responsive to the unique needs of children with CP (Granlund & Imms, 2024; Ullenhag et al., 2024). This comprehensive approach to inclusion aligns with contemporary theories of disability, focusing on autonomy, social engagement, and community participation.

While review of the guide involved a relatively small sample of only five dance teachers, which may limit the generalisability of the findings, this initial phase provided valuable insights. The findings from this pilot review will inform further development of the guide in preparation for a more extensive evaluation of its effectiveness and impact. Future research should focus on a larger-scale feasibility study involving a more diverse group of knowledge users, including families and children with CP, to evaluate the guide's acceptability, demand and sensibility (Bowen et al., 2009). This would enable a more comprehensive assessment of the guide and provide opportunities for meaningful refinements based on broader feedback.

Conclusions

The guide to supporting inclusive dance approaches described in this study is novel in several respects. Firstly, it was developed in collaboration with knowledge users, including a range of dance teachers from different areas of dance education, families of children with CP, and

children with lived experience. The multiphase nature of the study facilitated engagement with knowledge users from diverse backgrounds and levels of experience in dance classes, ensuring a richness in perspectives and enhancing the guide's relevance across diverse audiences. The workshops provided invaluable insights, and the research partners offered relevant experiences and skills to identify the practical tools embedded within the guide. Moving forward, the guide will be made freely available and shared widely with community-based dance classes across Australia. We encourage those actively involved in promoting inclusive practice to pilot the guide and offer feedback, which will be instrumental in continually refining and enhancing its effectiveness. This ongoing feedback will also help identify gaps or resource needs, ensuring that the guide remains current through the regular revision of resources and incorporation of newly available research and tools.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request and ethical approval.

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Disclosure statement

No potential conflicts of interest were reported by the authors.

Ethics approval and consent to participate

Ethical approval was obtained from the Australian Catholic University’s Human Research Ethics Committee (HREC) (Application ID: 2021-302H). All participants provided written informed consent, children and youth who were younger than 18 years old provided informed assent.

Consent for publication

Participants provided consent that data, including their words, may be quoted in publications, reports, and other research outputs, but that their names would not be used, and their identity would always be kept anonymous.

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Authors' contributions

EDM, LM, and MC engaged in the conception, design, data collection, data analysis, interpretation, and writing of the manuscript. JN, JC, and RO contributed to the conception, interpretation, and drafting of the manuscript. EDM initially drafted the manuscript. All authors contributed to various sections of the draft and have critically read, reviewed, and approved the final version. All authors have agreed to the submitted version and take personal responsibility for their individual contributions. Furthermore, they will ensure that any questions related to the accuracy or integrity of any part of the work are appropriately investigated, resolved, and documented. All authors read and approved the final manuscript.

Chapter 5 Summary and Implications:

The co-designed inclusive dance approach presented in this chapter marks a significant advancement in promoting the inclusion of children with CP in community dance classes. The guide was developed through a comprehensive two-phase process:

- In Phase One, co-design workshops involved multiple rounds of internal feedback, where researchers, families, health professionals, and dance teachers collaboratively refined the guide's structure and content. The iterative nature of this phase ensured

that the guide remained relevant and reflective of the needs and experiences of the end-users.

- Phase Two focused on exploring the guide's feasibility through external feedback from Dance Teacher Reviewers. This phase was essential in assessing the guide's usability, acceptability, and practicality in real-world settings. Feedback gathered during this phase demonstrated that the guide's structure and content were well-received, with dance teachers noting its ease of use and adaptability to their practices. The guide's strong foundation in early childhood development and learning ensured that it promotes autonomy, competence, and relatedness, critical factors in fostering meaningful participation for children with CP.

The rigorous multiphase approach, along with the validation from external reviewers, positions the guide as a practical and valuable tool for promoting inclusive practices in community dance settings. Future research should examine its effectiveness, implementation feasibility, and impact across diverse contexts on a larger scale, to further enhance its applicability and broaden its impact in supporting inclusion for children with CP.

Chapter 6. Grand Discussion and Conclusions

This chapter draws together the significant findings of this thesis and discusses them in relation to the broader national context of disability and inclusion in Australia, particularly through the lens of the recent recommendations from the Disability Royal Commission and the proposed changes to the National Disability Insurance Scheme (NDIS) (CoA, 2013; CoA, 2023). It highlights how the participatory methodologies, knowledge-user involvement, and co-design approach of this thesis directly contribute to advancing inclusive practices in community-based dance classes for children with CP.

Summary of main findings

This thesis was divided into two sections. **Part One** focused on understanding the current state of evidence related to dance interventions for individuals with CP and on capturing the perspectives of knowledge users regarding inclusion and participation in dance programs and classes. **Part Two** focused on the co-design and pilot evaluation of an inclusive dance guide that reflects the priorities of children with CP and their families.

Summary of Part One

In Chapter Three, Study One, a systematic review (*published*) was conducted to evaluate the efficacy of dance interventions for individuals with cerebral palsy (CP), focusing on outcomes across all levels of the International Classification of Functioning, Disability, and Health (ICF) framework. This study marked a significant contribution to the field, as it was the first time the evidence around dance interventions for CP had been evaluated through a meta-analysis, with participation outcomes mapped onto the Family of Participation-Related Constructs (fPRC) model. This approach provided a deeper understanding of how these interventions influence not only physical abilities but also meaningful engagement and social interaction.

The key findings from this systematic review highlighted that while dance interventions have demonstrated positive effects on motor functions, such as gait, posture, and balance, the representation of participation outcomes was still limited. The review argues that dance programs and interventions should extend beyond physical and functional achievements to include how children and adolescents with CP meaningfully engage in dance activities, contributing to their broader well-being and life outcomes. These findings form the foundation for the broader thesis, advocating for dance interventions that support meaningful engagement and participation, rather than only focusing on body structure and function.

In response to these findings, Chapter Four, Study Two (*under review*), involved public consultation with knowledge users—children with CP, their parents, and dance teachers—seeking to understand their values and priorities, and the potential barriers that exist for children and adolescents with CP to join dance programs and classes. The findings underscored that parents and dance teachers see meaningful engagement as critical to successful participation. However, they also identified several barriers that hindered inclusion, such as the lack of inclusive training for dance teachers and environmental challenges, including inadequate access to facilities and resources that support the participation of children with CP.

Collectively, the findings from **Part One** clearly demonstrated the importance of participation-focused approach to dance interventions for individuals with CP, but also underscoring the need to shift from intervention-centric models toward inclusive practices embedded in community-based settings. This evidence prompted the development of the *Co-designed Inclusive Dance Approach Guide*, introduced in Part Two of the thesis. The guide was co-designed with input from knowledge users to address the gaps identified in both the literature and the consultations. It aims to equip dance teachers and community-based

practitioners with the necessary tools and strategies to design and deliver inclusive dance classes that foster meaningful participation and engagement for children with CP.

Summary of Part Two

Part Two was divided into two phases: *Phase One* involved co-design workshops and *Phase Two* focused on the guide review by receiving critical feedback from dance teacher reviewers using mixed methodology. In response to the gaps identified in **Part One**, this section centred on the development and pilot evaluation of the *Co-designed Inclusive Dance Approach Guide*. The guide was created through six co-design workshops, which included internal feedback and collaborative discussion sessions with researchers and knowledge user partners. This participatory process was innovative, as it involved collaboration with key knowledge users such as parents of children with CP, dance teachers, therapists, and academic researchers. The inclusion of these diverse voices embodies a commitment to the principle of "nothing about us without us," an underlying ethos of this thesis. Engaging a diverse group of knowledge users ensured the guide's relevance, adaptability, and practicality, positioning it as a valuable tool for fostering inclusive, community-based dance settings for children with CP.

The resulting guide was structured into four key chapters, each addressing different elements of inclusion. These chapters covered creating inclusive dance spaces, developing inclusive dance curriculum, fostering dancer identity, and providing learning opportunities for dance teachers. Additionally, the guide offered strategies for promoting collaboration within the dance community and fostering connections among teachers, students, and families. It emphasised flexibility to accommodate the unique needs of each dancer, ensuring that the guide was both adaptable and inclusive, focusing on participation as a holistic process.

In the second phase, dance teachers who had not participated in the co-design process were involved in a pilot evaluation of the guide to assess its initial feasibility, focusing on acceptability, demand, and sensibility. This pilot evaluation was critical to ensuring the guide's practical applicability in real-world settings. Dance teacher reviewers praised the guide for its logical structure, ease of use, and adaptability across various dance styles and settings. The guide's focus on professional development and the inclusion of learning opportunities for dance teachers were particularly appreciated, as they addressed an identified gap in teacher training for inclusive practices. This phase validated the guide's content and demonstrated its potential for broad implementation across community-based dance classes.

Overall, the *Co-designed Inclusive Dance Approach Guide* was regarded as an effective tool for promoting inclusive practices within the dance community. By providing concrete strategies and adaptable resources, the guide addresses previously identified gaps in both physical and social participation for children with CP. Its practical relevance, user-friendly structure, and adaptability across different settings mark it as a significant contribution to the field, with the potential for wide-scale impact in promoting meaningful participation and inclusion in community-based classes for children with CP.

General discussion and contextualisation of major findings

Participation in recreation, leisure, arts, and sports activities of choice is a human right for all individuals with disabilities (UNCRPWD,2006), including those with physical disabilities, like CP. Member states of the United Nations, including Australia, are committed to promoting equitable access to leisure and community activities for people with disability, particularly through the provision of inclusive and supportive resources (UNCRPWD,2006). This thesis is grounded in this fundamental right, focusing on the experiences of children with CP and their right to engage meaningfully in community settings.

Current context for participation of people with disability in Australia

In 2013, the introduction of the National Disability Insurance Scheme (NDIS) in Australia marked a pivotal change in how services for people with disability were funded (and subsequently provided), with the scheme aiming to empower individuals with disabilities to lead more inclusive lives by improving access to community-based activities (Smith-Merry et al., 2023). The NDIS, in principle, supports a rights-based approach, aligning with the UN Convention on the Rights of Persons with Disabilities (UNCRPWD,2006), which advocates for full inclusion and equal opportunities in community activities. However, while the NDIS has broadened access to individualised funding and therapeutic support, challenges persist in translating these services into authentic, sustained, and meaningful community-based participation for individuals with disabilities, including children with CP (Ding et al., 2024; Jeanes et al., 2018b; Smith-Merry et al., 2023).

Now a decade into the NDIS, the scheme's strengths are evident, yet so are its structural and operational limitations (Smith-Merry et al., 2023). The evolving disability support landscape in Australia, supported by a shift in research and practice toward participation-based interventions, underscores the need for community-based inclusion as a core tenet of disability services (Ding et al., 2024; Granlund & Imms, 2024). However, the NDIS presents two interwoven but often disconnected elements: the provision of funded, therapeutic supports and the broader imperative for community-based inclusion of people with disability (Ding et al., 2024; Quartermaine et al., 2024). For instance, while individual funding is central to the NDIS, its model has not consistently extended to building community capacity or training local providers, nor has it systematically addressed the need for universally accessible community spaces (Ding et al., 2024; Jeanes et al., 2018b). This lack of integration between therapeutic and community sectors constrains opportunities for

individuals with disabilities to participate meaningfully in everyday life (Jeanes et al., 2018b; Ullenhag et al., 2024).

The findings of this thesis highlight the importance of knowledge translation and capacity building within the community sector. The development of the *Co-designed Inclusive Dance Approach Guide* exemplifies a practical tool to bridge this gap, providing dance teachers in the community with strategies to deliver adaptive, inclusive classes that foster meaningful participation for children with CP. The guide addresses both the need for adaptive program design and the importance of training community facilitators to understand and respond to the needs of participants with disabilities, illustrating a pathway to more inclusive community-based classes.

The findings of this thesis are underscored by a strong desire among families for their children to be included in community life. However, gaps remain in adequately supporting community facilitators, such as dance teachers, to adapt classes and create inclusive environments for participants with CP (Poncet et al., 2024). These findings align with recent research, which highlights that successful inclusion requires more than individualised supports; it also depends on systemic changes at the community level, including accessible facilities, well-informed staff, and classes tailored to accommodate diverse needs (Ding et al., 2024; McKenzie et al., 2023). Jeanes et al. (2018b) argue that a lack of inclusive training for community providers restricts participation opportunities, reinforcing the need for community-focused strategies that dismantle structural and cultural barriers to inclusion.

Inclusion matters: The pathway to meaningful engagementin community based activities

One of the novel contributions of this thesis has been to highlight the growing shift toward fostering genuine, meaningful participation in community-based activities for individuals with CP (Haynes et al., 2024; Lentzari et al., 2023). Importantly, it moves beyond traditional participation-focused interventions, positioning these as not the endpoint but as stepping

stones toward full inclusion within community settings. This approach builds on a surge of recent studies and interventions that advocate for individuals with disabilities, particularly children with CP, to be not only physically present but also actively engaged in ways that strengthen their sense of belonging and agency (Clutterbuck et al., 2022; McKenzie et al., 2023; Millard et al., 2021; Reedman et al., 2021b; Sivaratnam et al., 2020).

Participation-focused interventions form a critical foundation, equipping individuals with CP with knowledge and skills to navigate specific environments and engage meaningfully within them (Haynes et al., 2024; McKenzie et al., 2023). However, findings from this thesis, especially those capturing the voices of families and individuals with CP, demonstrate that the ultimate aim should be fully inclusive, community-based settings. In these inclusive spaces, all participants, regardless of ability, are valued, supported, and empowered to form meaningful connections (Fortin et al., 2021; Haynes et al., 2024). This approach advances beyond basic accommodations, seeking to cultivate environments where children with CP experience social acceptance, autonomy, and the opportunity to build relationships. Recognising participation-focused interventions as essential steps toward inclusion, this research underscores the importance of crafting inclusive community environments that foster a wide range of engagement and contributions from children with CP.

The genuine partnership between researchers and knowledge users in this thesis contributed to a significant expansion of knowledge regarding true inclusion, unpacking the need to avoid tokenistic efforts. True inclusion involves children with and without disabilities coming together to experience autonomy, social acceptance, and meaningful connections, with appropriate adaptations to ensure full participation (Haynes et al., 2024; Mantilla et al., 2022; Smart et al., 2018). Segregation, by contrast, keeps children in separate spaces, while integration may place them in the same physical environment without sufficient support for

active and meaningful engagement (McVilly et al., 2023; Spivakovsky et al., 2023). The insights from this thesis align with the growing body of work in Australia aiming to close the gap between integration and true inclusion (Haynes et al., 2024; Jeanes et al., 2018b), offering a clearer understanding of the barriers and opportunities that exist within community-based dance classes.

Participation of children with CP in community-based activities: Rethinking "therapising" community spaces

As community-based activities like dance, sports, and recreational programs gain recognition as essential environments for meaningful participation, it is crucial to consider the unintended consequences of converting these spaces into 'therapeutic' environments (King et al., 2009; Lentzari et al., 2023). Traditional therapeutic models often require children with CP to attend separate, structured sessions, creating a divide between therapy and genuine community participation (Haynes et al., 2024; Nyquist et al., 2020). While therapy and skill-building are critical for enhancing functional outcomes, supporting children within mainstream activities can provide equal, if not greater, value by fostering meaningful engagement and social connectedness that isolated therapy may lack (Haynes et al., 2024; Shuttleworth et al., 2024).

Findings from this thesis underscore the importance of seamlessly embedding therapeutic support directly within community settings rather than isolating children for skill-building alone. By integrating therapeutic practices within everyday community activities such as dance classes, children can engage alongside peers while meeting their functional goals, supporting both physical and social skill development (Granlund & Imms, 2024; Lentzari et al., 2023). For example, rather than pulling a child out of a community dance class to work on balance or coordination in a 'therapy session', therapists and dance teachers could collaborate prior to classes to integrate adaptive strategies within the class itself. This approach addresses the need for additional skills development and enables children to

strengthen physical abilities while forming meaningful social connections in real-world settings (Granlund & Imms, 2024; Ullenhag et al., 2024).

Partnering with health professionals within community settings, rather than isolating children in therapeutic environments, can effectively address practical and psychological barriers to inclusion (Granlund & Imms, 2024; Ullenhag et al., 2024). Furthermore, by training community facilitators in adaptive techniques and strategies for enhanced participation, health professionals can bridge the gap between clinical and community contexts, ensuring that these 'everyday' and real-life environments reach their full inclusive potential without converting community spaces and activities into "therapy" (Granlund & Imms, 2024; Shuttleworth et al., 2024). This model supports skill-building, social connection, and a sense of belonging in tandem, highlighting the unique role health professionals can play as collaborators to enhance community facilitators' abilities to support children with CP within inclusive settings.

Moving from policy intent to inclusive practice

Reflecting on the disconnect between policy intent and real-world outcomes, this research consistently highlighted the perspectives of children with CP, their families, and other key stakeholders involved in community-based dance classes. Throughout this thesis, knowledge users identified participation and inclusion as crucial areas of focus for ensuring meaningful engagement in community settings.

The findings of this thesis align with the broader national discourse on disability inclusion, particularly with the recent Disability Royal Commission, which calls for broader access to community-based activities and emphasises the need for systemic changes to improve access and support for inclusive activities (CoA, 2023). For example recommendations 7.1 – 7.5 of the Disability Royal Commission Final Report (CoA, 2023),

advocate for expanded access to inclusive education and recreation programs, along with a coordinated, cross-sector approach to workforce training.

This thesis responds directly to these national priorities by offering practical tools that promote inclusion, enhance dance teacher training, and promote cross-sector collaboration. Moreover, the novel contributions of this thesis to our knowledge are evident in its reflection on the Disability Royal Commission's emphasis on programs that address the social determinants of participation, promoting disability awareness, training skilled instructors, and implementing inclusive policies to remove structural barriers (CoA, 2023).

By linking the recent literature on the barriers and facilitators to participation for individuals with CP (Ding et al., 2024; Mantilla et al., 2022; McKenzie et al., 2023; Quartermaine et al., 2024) with the findings from **Part One** of this thesis, it becomes clear that, while frameworks like the NDIS are in place, significant gaps remain in their real-world implementation. Programs such as community-based dance classes often lack the infrastructure and expertise necessary to accommodate children with CP, resulting in unintentional exclusion (Aujla & Redding, 2013). Despite the NDIS's intent and the Disability Royal Commission's focus on promoting participation, the scheme's individualised funding model does not adequately address systemic barriers preventing children from fully participating in community settings (Smith-Merry et al., 2023). As a result, essential community activities like dance, which are critical for the holistic development of children with CP, remain out of reach for many families.

The second part of this discussion focuses on unpacking the novel contribution of the *Co-designed Inclusive Dance Approach Guide*, offering new pathways for bridging the gap between policy and practice in Australia's dance and disability sector. This guide was developed to address the long-standing challenges posed by ableist culture, the need for workforce upskilling, and the creation of inclusive classes (Aujla & Redding, 2013; Mantilla

et al., 2022). By contextualising this guide within the broader research on disability and inclusion, and knowledge translation this thesis makes a significant contribution to the current demand from the Disability Royal Commission to improve laws, policies, and practices to create a more inclusive and fair society that supports the independence of people with disability, including children with CP.

Dismantling ableist culture

A central focus of the *Co-designed Inclusive Dance Approach Guide* is its challenge to the deeply rooted ableist culture within the arts and sports sectors, which often limits opportunities for individuals with disabilities. Research by Aujla and Redding (2013) highlights how dance spaces frequently emphasise aesthetics that marginalise those with physical differences, creating exclusionary environments that fail to accommodate the diversity of all bodies. The guide counters this by advocating for inclusive dance spaces that celebrate diversity in movement rather than imposing restrictive norms. Fortin et al. (2021) support this perspective, arguing that fostering inclusion and well-being in dance requires a genuine embrace of all bodies, creating spaces where individuals with and without disabilities can come together as equals, promoting social acceptance and a sense of belonging.

The concept of belonging and connection is central to this inclusive approach. Feeling genuinely connected and accepted in a community is often more meaningful for individuals than adhering to traditional norms or aesthetics (Berthiaume et al., 2024; Fortin et al., 2021). For children with disabilities, a sense of belonging within a supportive group fosters self-worth, social confidence, and well-being, reinforcing the idea that all bodies are valued and respected (Fortin et al., 2021; Mantilla et al., 2022). The guide highlights the importance of creating an environment where dancers are encouraged to "have a go" and participate actively, enabling each person, regardless of ability, to feel they are an integral part of a group that appreciates them for who they are (Downie, 2022; Urmston & Aujla, 2019). This

approach shifts the focus from merely "fitting in" to establishing spaces where children with CP feel genuinely accepted and celebrated as equal participants (Downie, 2022; Lentzari et al., 2023).

Furthermore, the guide highlights the importance of role models with disabilities in leadership positions within dance classes. By encouraging dancers with disabilities to take on visible leadership roles, the guide actively challenges societal attitudes and moves toward dismantling ableist views. Research shows that placing individuals with disabilities in these roles can help break down ableist culture and foster a genuinely inclusive environment (Hanlon & Taylor, 2022; Haynes et al., 2024). The guide not only proposes practical strategies for dance teachers but also underscores the value of empowering dancers with disabilities to lead, ensuring that inclusion moves beyond tokenistic efforts (Fortin et al., 2021).

Promoting cross-sector collaboration

Another unique contribution of the *Co-designed Inclusive Dance Approach Guide* is its emphasis on the critical need for cross-sector collaboration to support meaningful inclusion of children with CP in community settings. Throughout this research, family partners repeatedly highlighted the siloed nature of current disability services. This disjointed approach hinders inclusive, community-based participation, as families face fragmented support and challenges in navigating various services, each with its own goals and methodologies (Rosenbaum et al., 2024; Ullenhag et al., 2024).

While the NDIS was established to provide individualised support for people with disability, its funding model has unintentionally reinforced a discipline-specific approach, often discouraging cross-sector collaboration (Foley et al., 2021; Green et al., 2020). Families seeking services often find themselves interacting with separate entities that rarely communicate, leading to inconsistent support that does not fully address their needs within

the community (Foley et al., 2021). This lack of alignment contrasts with best practices for inclusion and family-centred care, which emphasise coordinated efforts between professionals to address the unique needs of children with disabilities (Novak-Pavlic et al., 2023).

The guide developed in this thesis responds to these challenges by creating a framework that fosters collaboration across sectors, integrating dance education, health, and community engagement. By bridging these fields, the guide provides practical strategies for dance educators and therapists to work collaboratively, ensuring that therapeutic goals can be achieved within inclusive, community-based dance environments. This approach reinforces the notion that inclusion is not just the responsibility of one sector but requires a combined effort from professionals and community members (Ullenhag et al., 2024).

For Novak-Pavlic et al. (2023) to effectively address the needs of families and foster thriving communities, there must be both transdisciplinary collaboration and an integrated support system that empowers communities. They argue that the effectiveness of support services depends on overcoming fragmentation and creating an ecosystem where professionals from various fields are encouraged to collaborate toward a common goal (Novak-Pavlic et al., 2023). Granlund and Imms (2024) highlight the value of coaching community-based service providers, who hold unique insights into the environmental characteristics of activity settings. They argue that coaching on how impairments and activity restrictions intersect with environmental factors is crucial for building environments that support children with disabilities effectively (Granlund & Imms, 2024). The *Co-designed Inclusive Dance Approach Guide* provides the tools and framework to better develop inclusive dance classes that are substantiable through multi-disciplinary support, creating a more cohesive and effective approach to inclusion.

Addressing the knowledge gap: workforce upskilling

Another central contribution of this thesis is its focus on addressing the gap in dance teacher training, specifically the need for workforce upskilling to support dancers with disabilities. **Part One** of this thesis emphasised the need for dance teachers to adopt flexible and relational approaches within structured classes to facilitate meaningful participation for dancers with CP. Yet, traditional training often overlooks the skills needed to adapt classes inclusively, leaving many teachers without the knowledge or confidence to modify physical activities in ways that meet diverse needs (Aujla & Redding, 2013; DiPasquale, 2020). Studies show that the dancer fully participates and experiences the joy of dancing when the dance teacher has the knowledge and skills to offer modifications, when needed, and models acceptance in their pedagogy, materials, and dance classes (Fortin et al., 2021; Purcell Cone, 2015).

To bridge this training gap, the *Co-designed Inclusive Dance Approach Guide* developed in this thesis offers practical recommendations grounded in co-design experience and evidence-based tools. These recommendations are culturally safe, accessible, and flexible, equipping teachers to adapt their pedagogy to diverse needs effectively. Moreover, the guide presents a structured yet adaptable framework that helps teachers shift away from traditional, rigid models of classroom design and teaching programs, which often limit creativity and inclusivity (Cameron Frichtel, 2017). Such conventional approaches can be a barrier to participation by prioritising uniformity over individual expression (Downie, 2022). The guide instead encourages creative adjustments that accommodate the unique movements and abilities of dancers with disabilities. This adaptive model encourages teachers to create positive, engaging experiences where all children can connect, participate, and thrive within an inclusive environment (Comella et al., 2019; Mantilla et al., 2022). By integrating these skills into dance teacher training, this guide offers a significant contribution to inclusive

education, helping bridge the gap between traditional dance instruction and practices that celebrate diversity and foster a genuine sense of belonging (Downie, 2022; Purcell Cone, 2015).

Strengths of this research and clinical relevance

One of the key strengths of this thesis lies in the development of the *Co-Designed Inclusive Dance Approach Guide*, which offers practical strategies and tools to support dance teachers in creating inclusive environments. The guide's co-design process, involving children with CP, their families, therapists, and dance professionals, ensured that the strategies provided were grounded in real-world experiences and needs. This multi-level engagement of knowledge users fosters a more holistic understanding of the barriers and facilitators to participation in dance classes, moving beyond exclusionary models that have historically dominated the arts and sports sectors. By positioning lived experiences at the centre of its design, the guide responds to the needs of both dance students and educators, ensuring that its recommendations are feasible and impactful in practical settings.

In addition, this thesis demonstrates the impact of co-design and co-authorship with people with lived experience, not only as ethical best practice but also as a methodological innovation. The lived experiences of knowledge users shaped both the process and content of this work, consistent with the GRIPP-2 framework outlined in Chapter Two, which structured the involvement of knowledge users at every stage of the research process. Importantly, this involvement was organic and flexible, allowing knowledge users to engage with the research at the level and intensity they desired, whether by contributing practical resources, shaping the language and structure, or influencing key design decisions as co-authors. This freedom of engagement fostered a genuine partnership, where lived experience was not constrained or tokenistic but instead deeply embedded in the research process. This approach demonstrated in this doctoral project provides a practical example of how authentic co-design and co-

authorship can meaningfully enrich the research process, enhance the overall outcomes of the research project and promote the development of inclusive practice.

Another strength of this research is its firm grounding in the contemporary evidence in paediatric health care and inclusion, drawing from well-established frameworks such as the Family of Participation-Related Constructs (fPRC), the F-words framework and the Early Years Learning Framework for Australia: Belonging, Being and Becoming. These frameworks ensure that the guide not only focuses on physical inclusion but also addresses broader social and emotional participation, aligning with current best practices in paediatric rehabilitation and education (DEEWR, 2009; ECIA, 2016). By integrating these frameworks into the guide, this research offers a holistic understanding of inclusion and provides practical strategies that address the full spectrum of participation for children with CP.

While the guide's final structure reflects the core themes and sub-themes identified in Chapter Four, its inclusivity was significantly enhanced by the sustained involvement of knowledge users, particularly those with lived experience. Their contributions extended beyond the evidence-based health and rehabilitation frameworks familiar to the research team, introducing inclusive education principles such as Universal Design for Learning (UDL) and the Conversations for Collaboration framework. These additions broadened the guide's applicability across both community and educational contexts. This continuity of involvement ensured that knowledge user perspectives were not only heard but actively implemented. The close alignment between the final guide and the themes from Chapter Four illustrates how this project approached the Empower level of the IAP2 Spectrum, where decision-making authority is shared with knowledge users.

Furthermore, the guide's emphasis on cross-sector collaboration is a significant strength. This collaborative approach enhances the guide's applicability and ensures its continuous evolution to meet the changing needs of children with CP. By drawing on insights

from multiple sectors, the guide fosters a cohesive support network that creates environments where dance classes can adapt to the unique physical, emotional, and social needs of each participant. This approach not only makes the guide more relevant across diverse settings but also ensures sustainability through continuous feedback and refinement based on each community's needs.

Clinical relevance

This thesis demonstrates significant clinical relevance by advancing the understanding of participation-focused programs for children with CP. Through the development of the *Co-Designed Inclusive Dance Approach Guide*, this thesis bridges the gap between clinical practice and community-based activities through effective knowledge translation. It exemplifies how theoretical concepts like participation and inclusion, which are well-established in research, can be translated into practical, actionable strategies that can be implemented by dance teachers, families, and therapists. The co-design approach used to develop the guide further strengthens its role as a tool for knowledge translation, ensuring that the voices of children with CP and their families were central to its creation. This involvement enabled professionals to transform research findings into practical applications that directly impact children's participation in community settings.

The guide holds substantial clinical relevance as it equips educators with practical tools needed to implement inclusive practices in dance classes. Clinicians, such as occupational therapists and physiotherapists, can collaborate with dance teachers using this guide to promote the physical, social, and emotional development of children with CP through dance. By facilitating such interdisciplinary collaboration, the guide serves as a valuable resource for translating clinical goals into community outcomes. By offering a structured framework for creating inclusive environments, it supports educators in modifying their teaching practices to foster participation for all children, regardless of their abilities.

This emphasis on flexibility and adaptability stands to increase the reach and engagement of community-based dance classes, making them more accessible and effective for children with and without disability.

Lastly, this thesis aligns with key recommendations from the Disability Royal Commission (2023), which advocate for the involvement of people with disability in the design and implementation of programs and services that affect them. The participatory methodologies used, including the involvement of a Consumer Advisory Panel (CAP) and a co-design approach, ensured that the voices of children with CP and their families were central to the research. This participatory model not only reinforces the inclusive nature of the guide but also serves as a template for future projects, ensuring that disability programs are co-created with the people they are designed to support.

Limitations and future directions

There were consistent challenges with recruitment throughout the consultation phase of this thesis, resulting in a reduced number of children participating and the absence of adolescents in the sample. While the involvement of children with CP and their families provided rich, in-depth data, this limited sample size may not adequately capture the diversity of experiences within the broader CP population. Furthermore, the absence of adolescent voices may also limit the generalisability of the findings, especially considering that their perspectives and needs in community-based dance classes may differ from those of younger children.

While this thesis employed recommended strategies to engage populations often underserved by existing services, such as children and adolescents with CP (Gonzalez et al., 2021), barriers to broader engagement, particularly of adolescents with CP, were evident and are consistent with the literature (Cavens et al., 2022; Gonzalez et al., 2021). These challenges reflect the broader issue that research processes and systems often remain hard to access for many young people with disability. One significant limitation was limited funding,

which restricted compensation, tailored resources, and sustained involvement. This concern was also raised by advocacy organisations who supported recruitment for this study. Pozniak et al. (2022) similarly noted that traditional funding often overlooks the resources needed for genuine lived experience partnerships. Moreover, efforts to include participants from regional and remote areas were also hindered by a lack of partnerships with local services. As highlighted by Gonzalez et al. (2021), Headrick et al. (2023), and Pozniak et al. (2022), building trust with community networks is essential for inclusive engagement. These challenges underscore the need for dedicated funding and strong local partnerships in future research.

Additionally, the thesis only reports on the initial evaluation of the guide's feasibility of the *Co-Designed Inclusive Dance Approach Guide* with a small sample of dance teacher reviewers who were not involved in the co-design process. These reviewers provided insights from a fresh perspective, evaluating the guide's practicality, adaptability, and relevance within real-world contexts. Their feedback, while invaluable in offering initial validation, reflects only a limited scope of the guide's applicability, as this sample does not encompass the full diversity of educational and recreational settings where it might be implemented. In this context, the term evidence-based, as used throughout the thesis, refers to the guide's grounding in peer-reviewed literature, knowledge user collaboration and lived experience, and iterative co-development. However, given that the evaluation to date was limited to a desktop review rather than full pilot implementation in practice and/or outcome testing, the guide may be more accurately described as evidence-informed, co-designed and Knowledge User-led. Engaging a larger and more varied group of dance educators across multiple sectors would be essential for gaining a comprehensive view of the guide's strengths and areas that could benefit from further refinement, ultimately enhancing its potential for broad-scale application.

Furthermore, the “Finding the Right Place” checklist developed in Part One of this thesis offers a set of initial recommendations to support families and dance providers in identifying inclusive environments. While grounded in literature and developed from rich qualitative data, including contributions from the CAP, it reflects the findings of a single study. As such, it should be interpreted as a preliminary tool rather than a validated measure. Future research could enhance its credibility and broader applicability through structured consensus-building processes, such as an e-Delphi study involving a wider and more diverse group of stakeholders, to further refine and prioritise its strategies (Donohoe et al., 2012; Spranger et al., 2022).

Another limitation lies in the complexity of the inclusive approach proposed by the guide, which may require a significant reframing of practice among dance teachers depending on their individual attitudes, beliefs, experiences, and the context in which they work. For teachers with limited prior exposure to inclusive practices, adopting this framework may pose challenges that could affect its intended effectiveness. To address these potential challenges, in-depth educational interventions such as online training modules and communities of practice could provide the necessary professional development and ongoing support. However, this thesis does not explore these resources, nor does it delve into how individual and contextual factors might influence the implementation process across varied teaching environments. These are exciting and challenging opportunities for future work and an area of increasing interest (and financial commitment) at state and national levels as demonstrated through recent grant opportunities for workforce training and development. These limitations, suggest the need for a cautious approach to any broad claims regarding the effectiveness and impact of the guide in the community. Although promising, the guide’s potential to increase the reach and engagement of community-based dance classes for children with and without disabilities can be more confidently affirmed following its adoption and testing within a

larger, more diverse cohort. This tempered approach respects the promising preliminary findings while acknowledging the need for further study and support to fully realise its potential across diverse contexts.

Future directions

As recommended by the Dance Teacher Reviewers, future efforts should focus on developing comprehensive "Train-the-Trainer" programs and "Communities of Practice" to extend the reach of the *Co-Designed Inclusive Dance Approach Guide*. These programs would empower dance educators, therapists, and community facilitators to train others within their communities, implementing best practice initiatives that increase the capacity to deliver inclusive dance classes in areas with limited resources and expertise. By training dance teachers, including those teachers with disabilities, these initiatives could significantly enhance workforce capability and capacity. The structured approach of a "Train-the-Trainer" program would not only reduce barriers to participation by equipping local teachers with the necessary skills and knowledge, but also promote employment opportunities for individuals with disabilities in the arts and education sectors. Facilitating knowledge sharing among trained professionals would allow for the widespread dissemination of inclusive practices across Australia, creating scalable, sustainable pathways for the ongoing inclusion of people with disability in dance. Equipping local leaders with the skills and tools necessary to lead inclusive activities ensures that children, regardless of their ability, can access community-based dance classes that foster inclusion and participation.

Implementing continuous evaluation strategies is essential for ensuring that the guide remains effective and relevant over time. Regular feedback from dance educators, health professionals, and families should be incorporated into the guide's development, allowing it to adapt to the evolving needs of the community and ensuring sustainable improvement through iterative refinements. Scalability is also a key factor in the guide's long-term impact.

Future studies should measure the guide's outcomes and success by using both quantitative and qualitative methods. This includes tracking participation and exposure to the guide, monitoring where program materials, resources, and training are applied and by whom, evaluating tailored strategies and their feasibility and cost-effectiveness, and tracking the program's sustainability and long-term scalability across the community.

While the current guide specifically targets the CP population, there is an opportunity to expand its principles and strategies to children of all abilities due to its flexible approach and adaptable framework. Designed with a comprehensive structure grounded in the latest evidence on early childhood learning and development, the guide may be applied more broadly to children with diverse needs. This flexibility ensures that the framework developed in this thesis can support children with various disabilities across multiple sectors.

Expanding the guide's use to integrate with existing sports, recreation, and arts community activities can help bridge the gap between arts and sports, offering children with CP and other disabilities more opportunities to participate in leisure activities that are both physical and creative. However, successful cross-sector collaboration often can be hindered by differing sectoral goals, conflicting priorities, inconsistent terminologies, lack of accountability, and power imbalances (Alderwick et al., 2021). The guide has the potential to address these challenges by offering a shared language and a participation-focused lens that can help align perspectives across sectors, fostering collective action towards inclusion.

Furthermore, expanding the application of the guide encourages interdisciplinary collaboration between educators, health professionals, and community facilitators, fostering a more inclusive environment in which the holistic needs of children are addressed. This broader applicability not only strengthens the guide's impact but also supports the ongoing development of inclusive practices across diverse sectors, promoting participation and inclusion for all children, regardless of ability, across various community settings.

Another important consideration for the guide's long-term scalability is addressing the barriers to implementation in rural and under-resourced contexts. As Walker et al. (2020) highlight, barriers in rural communities are not limited to geographical distance, they are deeply rooted in systemic, economic, and cultural constraints that shape program accessibility, workforce capacity, and community attitudes. Collaborating with state governments, local councils, and community stakeholders is essential to ensure that adaptations of the guide's strategies are culturally relevant, context-specific, and sustainably implemented (Jeanes et al., 2018a). Such partnerships can also help embed foundational supports and prioritise workforce development in remote areas, fostering more equitable access to inclusive community programs (Jeanes et al., 2018a; Walker et al., 2020).

Table 11 summarises the key future directions for the Co-Designed Inclusive Dance Approach Guide. It incorporates priorities identified through Phase Four and recommendations from knowledge users and research partners, offering a strategic overview of next steps for development, implementation, and evaluation.

Table 11 Summary of Future Directions and Strategic Considerations

Review and refinement of the guide	
Include real-life vignettes illustrating guide use in community settings Integrate colour-coded chapter banners and tailored examples for assistant dance teachers Include plain language summaries and easy read formats Improve accessibility and prepare digital/public version for dissemination	(Duarte Machado et al., 2025)
Transition from policy to practice	
Develop pathways for implementation through collaboration with local councils and organisations Identify policy champions within local government Seek local grant funding for pilot implementation Embed guide into existing local dance programs aligned with state-level inclusive policy initiatives	(Jeanes et al., 2018a; Proctor et al., 2011)
Feasibility and Piloting of the guide	
Conduct small-scale pilot studies to assess acceptability, practicality, and initial outcomes Engage diverse stakeholder groups in early testing Use feedback to refine usability, relevance, and inclusiveness	(Chan et al., 2021; Finley et al., 2024)
Scaling and Train-the-Trainer Program	
Design scalable training modules for local educators and facilitators Include educators with disability in program design and delivery Link development to future funding and workforce strategies Pilot training in multiple community settings (urban, regional, remote)	(Crane et al., 2019; Proctor et al., 2011)
Evaluation and broader application	
Conduct mixed-method longitudinal studies Apply RE-AIM framework o Reach: Track engagement and retention across communities o Effectiveness: Use surveys, rapid impact tools, qualitative methods o Adoption: Monitor where and how materials are used o Implementation: Assess feasibility, cost, and fidelity o Maintenance: Evaluate long-term sustainability and scaling Include economic evaluation (cost-effectiveness or cost-benefit) Disseminate findings through open-access platforms and community forums	(Chen, 2016; D'Lima et al., 2021)
Expansion to existing sports, recreation, and arts community activities	
Extend guide application to other inclusive activities beyond dance (e.g., sport, recreation, music) Apply community-based participatory research approaches Partner with local sports clubs, libraries, and arts centres Develop cross-sector training modules Evaluate transferability and adaptation needs for each new domain	(D'Lima et al., 2021; Vaucher et al., 2016)

Conclusion

In conclusion, this thesis developed a novel, early, participation-grounded, and inclusion-enhancing dance approach guide aimed at fostering inclusion and improving the participation of children with CP in community-based dance classes. Through a systematic research program focused on understanding, developing, and refining the *Co-Designed Inclusive Dance Approach Guide*, this work bridges significant knowledge gaps, providing insights into how children with disabilities can access and meaningfully engage in mainstream activities in community settings.

This body of work integrates the perspectives of children with CP, their families, therapists, and dance professionals, resulting in an evidence-based guide informed by essential frameworks such as the Family of Participation-Related Constructs (fPRC) and the F-words. This integration provides a holistic approach to inclusion, addressing the intrinsic and extrinsic factors of participation for children with CP. Across the studies, this thesis underscores the importance of flexibility, relational engagement, and adaptive strategies, demonstrating that inclusive community-based participation depends on accessible environments, responsive pedagogies, and strong support networks that include families and multidisciplinary professionals.

The original research presented in this thesis advances the inclusion research agenda by bridging the gap between theoretical participation frameworks and their practical application in community settings. This work is of substantial relevance not only to children with CP and their families but also to policymakers and government bodies such as the Australian National Disability Insurance Scheme (NDIS), who prioritise inclusive community participation. Together, these contributions lay a foundation for sustainable, inclusive practices within community-based activities, highlighting the potential for this approach to reshape the landscape of inclusive participation for children with disabilities.

This thesis calls for authentic engagement and coordinated action to truly advance inclusion of children with disabilities in community-based programs. Government bodies, educational institutions, health and disability service providers, arts organisations, and non-governmental organisations (NGOs) must commit to piloting, evaluating, and refining frameworks such as the Co-Designed Inclusive Dance Approach Guide to ensure they are adaptable and effective across diverse community contexts, including rural and under-resourced areas. Policymakers are encouraged to invest in scalable workforce development initiatives that equip local educators, facilitators and volunteers with the knowledge and skills needed to deliver inclusive classes confidently and competently. Arts organisations, schools, and sports and recreation providers are urged to embed inclusive principles into everyday practice, recognising people with disability as essential partners in dismantling ableist structures and fostering true belonging and citizenship in their local communities. Inclusion cannot be an afterthought, it must be embedded from the outset through co-design, culturally responsive approaches, and sustained investment in workforce capacity. By supporting initiatives that have been co-developed with people with disability, we can move beyond symbolic inclusion and begin to reshape community spaces into places of genuine participation and belonging.

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Appendices

Appendix A. Statement of the Contribution of Authors

Statement of the Contribution of Authors

The following is a description of the contribution of the main and co-authors for each of the published/submitted manuscripts supporting this thesis.

1) ***"The efficacy of dance interventions for the activity and participation of individuals with cerebral palsy – a systematic review and meta-analysis"***

Author	Contribution
Eduardo Duarte Machado	60%
Professor Peter Wilson	15%
Associate Professor Michael Cole	10%
Professor Laura Miller	10%
Dr Thomas McGuckian	5%

Author	Signature	Date
EDM	[redacted]	25.10.2024
PW		25.10.2024
MC		25.10.2024
LM		25.10.2024
TM		25.10.2024

Conception & Design: EDM, PW, MC, LM
Analysis & Interpretation: EDM, PW, MC, LM, TM
Drafting & Production: EDM, PW, MC, LM, TM

2) ***"Key strategies to promote inclusion of children with Cerebral Palsy in community dance programs: child's, parents' and dance teachers' perspectives."***

Author	Contribution
Eduardo Duarte Machado	60%
Professor Laura Miller	9%
Professor Peter Wilson	8%
Associate Professor Michael Cole	8%
Dr. Joanna Nicholas	5%
Abiramy Thevarajah	5%
Joanne Cross	5%

Author	Signature	Date
EDM		25.10.2024
LM		25.10.2024
PW		25.10.2024
MC		25.10.2024
JN		28.10.2024
AT		28.10.2024
JC		07.11.2024

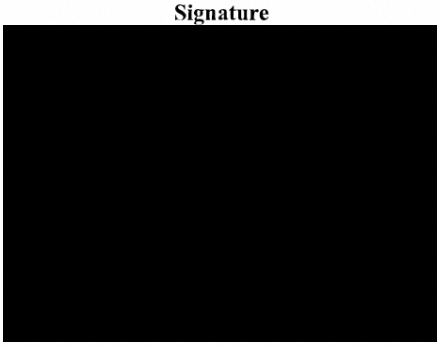
Conception & Design: EDM, PW, MC, LM

Analysis & Interpretation: EDM, PW, MC, LM, JN, AT, JC

Drafting & Production: EDM, PW, MC, LM, JN, AT, JC

3) ***"Co-designing an inclusive dance approach – A practical guide for the inclusion of children with Cerebral Palsy in community-based dance classes"***

Author	**Contribution**
Eduardo Duarte Machado	60%
Professor Laura Miller	9%
Associate Professor Michael Cole	9%
Dr. Joanna Nicholas	8%
Joanne Cross	8%
Rhyannon Orr	6%

Author	**Signature**	**Date**
EDM		25.10.2024
LM		25.10.2024
MC		25.10.2024
JN		28.10.2024
JC		07.11.2024
RO		06/11/2024

Conception & Design: EDM, MC, LM, JN, JC, RO
Analysis & Interpretation: EDM, MC, LM
Drafting & Production: EDM, MC, LM, JN, JC, RO

Appendix B. PROSPERO Registration

Citation

Eduardo Duarte Machado, Peter Wilson, Michael Cole, Laura Miller. Investigating the effect of dance interventions on body structure and function, as well as activities and participation for individuals with cerebral palsy - A systematic review and meta-analysis. PROSPERO 2021 CRD42021246272 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021246272

Review question

The aim of this systematic review is to determine the measured outcomes reported in published peer-reviewed literature for children and adults with cerebral palsy and determine the efficacy of dance as an intervention across these outcomes.

The following secondary questions will be answered:

What are the outcomes measured when using dance as the intervention in the neurorehabilitation of children with cerebral palsy?

How do measured outcomes map against the International Classification of Functioning (ICF)?

How do measured outcomes map against Family of Participation Related Constructs (fPRC)?

What are the characteristics of dance as an intervention?

What is the efficacy of dance as an intervention across measured outcomes?

What is the efficacy of dance as an intervention to increase participation-related outcomes?

Searches

We will search the following databases: CINAHL; Embase; PubMed; PsycINFO; Scopus; Web of Science – research published in English from peer-reviewed academic journals and all available years.

Types of study to be included

1- Studies published in English

2- Original data

3- Paper available in full text in a peer-reviewed journal

4- Studies employing any research design

5- Any year of publication

Condition or domain being studied

Children and adults with cerebral palsy and Dance interventions.

Participants/population

Children and adults with cerebral palsy, of any Gross Motor Function Classification System (GMFCS) level, distribution (unilateral or bilateral), or motor subtype (spastic, dyskinetic, or ataxic).

Intervention(s), exposure(s)

Dance interventions.

Comparator(s)/control
Any or none

Context
Dance is an activity that has the potential to enhance motor abilities, as well as cognitive and psychosocial outcomes (Stribling, & Christy, 2017; Joung et al, 2020). Participation in artistic activities like dance can provide a motivating environment and opportunities for creative expression (Lopez-Ortiz et al, 2018). Even though the literature has demonstrated the benefits of dance on physical, cognitive, and psychological function of people with neurological impairments, researchers have relied on classification schemes, like the International Classification of Functioning, Disability and Health (ICF) to conceptualize these changes. However, very little is understood about the process that defines the participation-related constructs of the ICF, and such schemes do not fully capture the complex multidimensional construct that is participation which is integral to the experience and benefits of dance for the individual (Swaine et al, 2020; Cherriere et al, 2019; Lopez-Ortiz et al, 2018; Imms et al, 2017).

The mapping of dance research outcomes to ICF classifications can be very challenging, as dance generally supports emotional expression and facilitates well-being (Lopez-Ortiz et al, 2018). Therefore, it is imperative to consider, dance as a therapeutic intervention for individuals with cerebral palsy that targets broader concepts of participation, including activity competence, self-concept and self-efficacy, and social participation (Lopez-Ortiz et al, 2018). The Family of Participation-Related Constructs (fPRC) can provide a framework for understanding participation and the intrinsic and extrinsic factors that influence outcomes (Adair et al, 2015; Imms et al, 2017).

Main outcome(s)
Any outcome measures. This would include changes in body structure, body function, activities and participation, and psychosocial functioning of people with CP participating in dance rehabilitation.

Additional outcome(s)
Changes in psychosocial levels and intrinsic and extrinsic factors of participation.

Data extraction (selection and coding)
Titles and abstracts of articles found will be independently screened by two reviewers against predefined inclusion and exclusion criteria. The two review authors will independently apply the predefined selection criteria and retrieve the full manuscripts of articles deemed relevant. A third author, not involved in the searching and screening of the articles, will provide adjudication if an agreement is not reached. Before commencing data extraction, a form will be developed. Extracted data will include study descriptors, participant demographics, dance style, intensity, frequency and duration of sessions, outcome measures, and evaluation methods. The extraction process will also follow the relevant reporting guidelines and the PRISMA statement. Description of interventions will be extracted and compiled using Covidence. We will contact study authors to gather additional data to assist with analysis as needed.

Risk of bias (quality) assessment
The methodological quality assessment will be independently carried out using a 16-item modified scale based on the various tools of the Critical Appraisal Skills Programme (CASP), to ensure representation across case control, cohort and randomized controlled trials (Lopez-Ortiz et al, 2018). To allow for the inclusion of case studies, the CASP Qualitative Research Checklist will be used to assess the quality of studies adopting this study design. Items in the checklist will be rated "Yes" (three points), "Can't tell" (two points), or "No" (one point). Each study will be scored out of 48. Two independent reviewers will assess this risk of bias, if there are disagreements between the two reviewers when assessing the risk of bias, a third independent reviewer will be involved to discuss and resolve.

Strategy for data synthesis
Due to the expected heterogeneous nature of the studies including variation on type of studies and outcome measures and tools, a descriptive narrative synthesis will include: study design, participant characteristics (age, gender, CP subtype, GMFCS level), intervention protocol (number of training sessions, number of weeks for intervention, number of hours in intervention), outcomes measured, measurement tools, as well as a comparison of the effect size for each outcome.

Outcomes measured will be mapped across the domains of the International Classification of Functioning, Disability and Health (ICF). To better understand the magnitude of the training effects of dance, the outcomes will be coded using the ICF. The linking process will involve assigning codes of the ICF domains of "Body Structure and Function" and "Activities and Participation". Codes will be further divided into chapters, and second, third and fourth levels within the ICF.

e.g. : 1. Body Structure and Function

1.1. Musculoskeletal and movement functions

1.1.1. Muscle functions

1.1.1.1. Muscle Power

1.1.1.2. Muscle Tone

1.1.1.3. Muscle Endurance

The two essential components of participation, attendance and involvement, will be linked separately according to the Family of Constructs Related to Participation (fPRC) framework. Summary tables will be created to show the evidence regarding the efficacy of dance as an intervention for people with Cerebral Palsy. If there are enough homogeneous studies, we will also consider involving statistical pooling of the data and conducting a meta-analysis. We will combine data from outcomes that measure the same construct. If there is insufficient data for the meta-analysis, due to heterogeneity of methodological designs or differences in the outcome measures, data will be explored qualitatively.

Analysis of subgroups or subsets

If adequate data are available, including any additional data obtained by contacting study authors, the following subgroup analyses will be completed; age, GMFCS level. The population will be grouped by age, aiming to capture differences at specific life stages. Subgroupings by GMFCS level (I to V), attempting to understand different challenges for those with varying levels of disability. Each subgroup will be analysed for different types of outcomes (Body structure and function, Activity and Participation, and psychosocial) based on the ICF and fPRC framework.

Contact details for further information

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Organisational affiliation of the review

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https://www.acu.edu.au/?gclsrc=aw.ds&&gclid=EAIaIQobChMI9bShzprZ7wIVFn8rCh3lyAanEAAYASAAEgJvu_D_BwE

Review team members and their organisational affiliations

Mr Eduardo Duarte Machado. Australia Catholic University ACU
Professor Peter Wilson. Australian Catholic University (ACU)
Dr Michael Cole. Australian Catholic University (ACU)
Assistant/Associate Professor Laura Miller. Australian Catholic University (ACU)

Type and method of review

Systematic review

Anticipated or actual start date

10 May 2021

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None

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Country
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Review Ongoing

Subject index terms status
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Subject index terms
Cerebral Palsy; Dancing; Humans

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Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.
The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions
25 June 2021

Appendix C. Ethics approval for Phase Two – Australian Catholic University

Wednesday, November 6, 2024 at 15:18:44 Australian Eastern Standard Time

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Subject: [2021-302H] - Ethics application approved!
Date: Friday 1 April 2022 at 8:45:35 AM Australian Eastern Standard Time
From: Kylie Pashley on behalf of Res Ethics
To: PeterH Wilson, Eduardo Duarte Machado
CC: Res Ethics

Dear Applicant,

Chief Investigator: Professor Peter Wilson, Dr Laura Miller, Dr Michael Cole
Student Researcher: Eduardo Duarte Machado
Ethics Register Number: 2021-302H
Project Title: Engaging knowledge users in the co-design of a dance intervention program for children with Cerebral palsy.
Date Approved: 01/04/2022
End Date: 30/04/2023

This is to certify that the above human ethics application has been reviewed by the Australian Catholic University Human Research Ethics Committee (ACU HREC). The application has been approved for the period given above.

Continued approval of this research project is contingent upon the submission of an annual progress report which is due on/before each anniversary of the project approval. A final report is due upon completion of the project. A report proforma can be downloaded from the ACU Research Ethics website.

Researchers are responsible for ensuring that all conditions of approval are adhered to and that any modifications to the protocol, including changes to personnel, are approved prior to implementation. In addition, the ACU HREC must be notified of any reportable matters including, but not limited to, incidents, complaints and unexpected issues.

Researchers are also responsible for ensuring that they adhere to the requirements of the National Statement on Ethical Conduct in Human Research, the Australian Code for the Responsible Conduct of Research and the University's Research Code of Conduct.

Any queries relating to this application should be directed to the Ethics Secretariat (res.ethics@acu.edu.au). Please quote your ethics approval number in all communications with us.

We wish you every success with your research.

Kind regards,

Kylie Pashley
on behalf of ACU HREC Chair, Assoc Prof. Michael Baker

Senior Research Ethics Officer | Research Services | Office of the Deputy Vice-Chancellor (Research)
Australian Catholic University

Appendix D. Focus Groups and Interviews Questions Guide

FOCUS GROUP 1 – QUESTIONS

Part A:

Questions for children and youth with CP:

1. What do you know about dance?
    i. Prompts
        1. Have you danced before?
        2. What was it like?
        3. Do you have friends who go to dance classes?
2. Have you ever been to dance classes?
    a. If Yes - What type? and What do you like most about your dance classes?
        i. Prompts
            1. Making friends
            2. Freedom to choose the music that I want to dance to
            3. Learning new dance skills from my dance teacher
            4. Being able to explore new movements
            5. Becoming a better dancer
    b. If No - What do you think you would like most about a dance class?
        i. Prompts
            1. Learning new dance skills from my dance teacher
            2. Freedom to choose the music that I want to dance to
            3. Being able to explore new movements
            4. Making friends
            5. Becoming a better dancer
3. What would be the important things to include in a dance class for you to participate?
    a. Or what would you like to be able to do in your dance class?
        i. Prompts
            1. Time to learn the dance movements
            2. People who enjoy dancing like me
            3. A dance instructor who listens to my ideas
4. Have you stopped going to dance classes or has anything made it hard for you to get to dance classes or to join in?
5. Are there any equipment/aids that help you join in at dance?
        i. Prompts
            1. Walker
            2. Wheelchair
            3. AFOS/Shoes
            4. Visuals
            5. AAC
            6. Ramps
6. What do you want to achieve from the dance class?
        i. Prompts
            1. Learning new skills
            2. Becoming a professional dancer
            3. Having fun

4. Making friends
5. Improving fitness
6. Exercises

Questions for parents/caregivers:

1. What do you think about dance as a community activity for your child or a possible intervention?
2. What things could your child achieve or experience by participating in a dance class?
3. What strategies do you use to support your child's involvement in dance classes?
    a. Or if the child doesn't attend dance classes – think about other community activities?
        i. Prompts
            1. Language (Inclusive language)
            2. Advocating
            3. Listening/Validating
            4. Supporting friendship
4. How do/could you support your child to join peers at the dance classes?
    a. What needs to be considered in dance classes to facilitate this?
5. What would be the possible barriers for you and your child to participate in the dance class?
        i. Prompts
            1. Affordability
            2. Availability
            3. Accessibility
            4. Accommodation
            5. Acceptability
            6. Inclusivity

Part B:

Questions for Health Professionals, School Teachers, and Dance Teachers:

1. In your experience or professional opinion, what do you think about the use of dance as a form of intervention/community participation for people with disabilities?
    a. How are dance classes structured for children who use assistive technology?
        i. Prompts
            1. Mobility (Walker, Wheelchair, AFOS)
            2. Communication (Visuals, AAC)
2. What do you think an inclusive dance class should look like?
3. What strategies do/would you use to help your students with developmental needs or disabilities to be involved in a school/community-based dance class?
        i. Prompts
            1. Inclusive language
            2. Listening/Validating
            3. Understanding assistive technology
            4. Setting and reviewing achievable goals
4. What outcomes do you seek to achieve (or see as important) for your clients/participants/students when participating in dance classes?
5. What things are essential to do when running a dance class for people with CP in the community?

6. What are the possible barriers for children and youths with CP to participate in dance classes?

Whole group questions:

1. Are there any other points or issues (not yet discussed) that are important to consider?
2. What are most important things you have learned through this focus group discussion?

FOCUS GROUP 2 – QUESTIONS

The questions below were developed based on the initial analysis of Focus Group 1 and the insights and feedback from the Consumer Advisory Panel (CAP).

Finding the right place

Collaborative approach (*Give freedom and choice; Develop individual dance plans; Use of invitational language)*

1. How can dance studios individualise the dance program to enable children to (i) engage/participate in the program, and (ii) achieve their personal goals?
   - Prompts
     - Setting individual goals
     - Fostering sense of progress
     - Have control over their dance experiences (making choices about their dance activities/routines)
2. In what ways can the dance instructor use communication/instruction to promote a more inclusive and welcoming environment for children and their families?

- Prompts
  - Developing a sense of identity (the role of a dancer).
  - Fostering a sense of contribution.
  - Using visual cues as part of the program for the whole group.
  - Using "dance language" that invites movement.

Flexibility within structure (*Be open to modifications, plan activities for the children in front of you; Develop skills and ensure sense of achievement; Have space for fun and creativity)*

3. How can a dance program encourage children with Cerebral Palsy to move and get active in a dance class in a fun and creative way, regardless of their ability?

- Prompts
  - Encourage movement.
  - Each dancer is unique and will have different ways of dancing.
  - Set the tone of the class to be a fun environment!

4. How can the dance class best encourage a sense of mastery and achievement in dance?

- Prompts
  - Accommodating varying levels of activities.
  - Observe HOW your dancer moves, learns, and adapts for their own abilities.
  - Work towards achieving the right challenge.
  - Making sure dancers feel as they are being challenged and can succeed.

Points of access (*A barrier-free environment; A safe supportive learning environment; A valued dancer role)*

5. How do you envisage a dance program that can accommodate the mobility needs of a child with Cerebral Palsy to foster their inclusion?

- Prompts
    - Addressing specific functional challenges
    - Parking
    - Toilets

6. What measures can be taken to create a dance environment where children with Cerebral Palsy feel emotionally safe and comfortable taking risks in their learning and movement?

- Prompts
    - Cultivate a non-judging environment.
    - Create an environment that counteracts negative stereotypes.
    - Modelling inclusive behaviour and attitudes.

7. How can dance programs contribute to enhancing the social image and status of children with Cerebral Palsy, emphasising their strengths and potential rather than their limitations?

- Prompts
    - How the child feels in relation to recital/performances.
    - How the costumes can support and emphasise their strengths.
    - Develop roles for the child within the class program.

Relational approach (*Ensure communication with network; Develop peer interaction and provide peer-support; Develop trust and set expectations)*

8. What strategies can be employed to collaborate effectively between family and support staff, such as therapists or educators, to enhance the inclusivity and accessibility of dance programs for children with Cerebral Palsy?

- Prompts
    - Involve and support families in the dance journey.
    - Recognising the importance of the child's network and their input and involvement.
    - Provide resources to the families to ensure they feel well-informed and empowered.
    - Promote open door policy for parent participation.

9. How can a dance studio cultivate a sense of helping dance culture, meaningful connections and relationships among peers, instructors, and families?

- Prompts
    - Model of socialisation and dancing.
    - Turn taking.
    - Peer support (Older dancer and younger dancers).
    - Learning about each other.

10. What strategies can a dance instructor implement to set clear and realistic expectations with the children and their families, considering individual abilities and goals?

- Prompts
    - Actively engage with parents or caregivers to gain insights into their child's strengths, challenges, and individual goals.
    - Set norms and expectations at beginning of season.

Educational opportunities for dance teachers

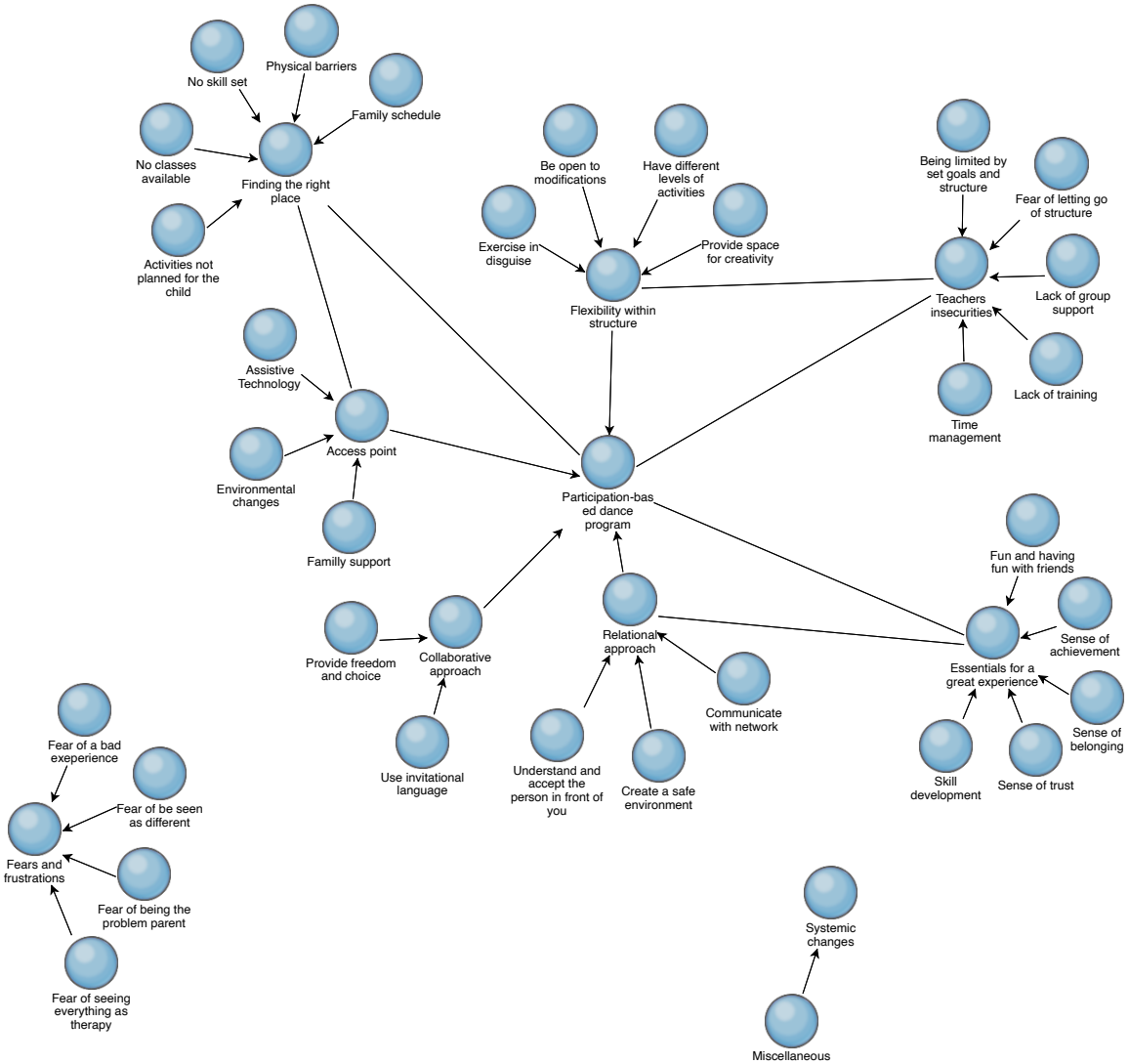
11. What strategies could be implemented to support continued learning for dance teachers to enhance their understanding of the unique needs of children with disability?

- Prompts
    - Regular knowledge-sharing and interactions between dance teachers and allied health professionals.
    - Facilitate a supportive community where dance teachers can share experiences, challenges, and successful strategies.
    - Regular workshops between families and dance instructors.

****Overall, Vision Statement Development****

12. Based on your collective insights and experiences, what would be the ideal vision for a dance program that allows children with Cerebral Palsy to experience a sense of social belonging and valued membership? And how can this vision statement reflect the key elements, values, and principles of children with Cerebral Palsy and their families to guide parents in making informed decisions about enrolling their child in a dance program?

Appendix E. Reflexive thematic analysis initial mind map



Appendix F. Reflexive thematic analysis initial codebook

Name	Description	Files	References
Essentials for a great experience	Important things to achieve in a dance intervention. FM - “I want her to learn about her body and the muscles that are there, and I also want her to know where her limitations are and when she can say, body won't do that, or it will do this.” RO - “I feel like fun is the most important.” JP - “…wellbeing, the simple psychosocial, the feel-good hormones, the confidence, all that stuff that makes you so feel so good. Okay, which then improves quality of life.”	6	52
Fun and having fun with friends	Fun is a currency that we all can do, regardless of the level of ability. KT - “I just like to have fun. I'm down to it.” FM - “I was going to add to that fun definitely love it, because that's what it's about. That's why it's a way of communicating.” CC - “…my number one priority, and that's the outcome that I hope that all students of all abilities come through, and experience joy when dancing during my classes.” LH - “having fun with friends”	6	12
Sense of achievement	The child sense of achievement and learning new skills. FM - “to be alongside like-minded peers, and to achieve together and to learn together, I think would be a really amazing thing for her too.” FM - “You know what we can do, and all the time looking for that sense of achievement for that particular student.”	3	7
Sense of belonging	Feeling part of a community. KT - “I wasn't the only one there. There was some that walked and some that couldn't, some that used the wheelchair, some that didn't. So it was very, it was more, it was much more relaxed. Because I was surrounded by everyone else.” TT - “So, the thing that we find with RDA and with the wheelchair sports is that, this are actually peers like it's children that are in the same situation, who have the same life experience.”	5	8
Sense of trust	The children trusting the people leading the dance program and being more open to them. OR - “…getting them more comfortable with you,	1	6

Name	Description	Files	References
	because when they're more comfortable with you they're able to communicate a lot easier with you." FM - "that sense of trust too, going both ways, like it's a big thing." JA - "…decision making in the group by the group members and the importance of establishing an open and trusting relationship, and if there's such thing as bringing social justice into the group."		
Skill development	The dance class should teach the child dance skills. FM - "I want some specific teaching. I want her to learn about her body and the muscles that are there, and I also want her to know where her limitations are and when she can say, body won't do that, or it will do this." KT - "It was something that really, kind of it, I could really get into. And I could really move."	4	8
Fears and frustrations	Family fears and concerns about their child engagement in dance programs. AH - "people staring." TT - "Integration is fine, but it's exhausting for everyone." FM - "And part of me, the protective part of me wants to keep dancing with her in the lounge room. Because we can love it together, and I'm aware of her needs and what I can tweak and work with, and sometimes, you know I'll give her a little bit of instruction, but a lot of the time it's just her free doing what comes naturally to her."	5	24
Fear of a bad experience	The child losing their passion for dance because of a bad experience. FM - "My concern is to find the right place for her to go. Because I don't want that passion switched off. Want it to be something that if she loves dancing, I want her to continue that." TT - "So, rather than trying to integrate a child in a mainstream class. And yeah, so to not be trying to integrate your child into another mainstream activity that isn't designed for them, was really restful."	2	5
Fear of be seen as different	Child's reduced sense of self, anxiety about coming to a new space not knowing if they will be accepted. FM - "I think the main thing is again that it's a teacher, making sure that if there are differences that are needed, it's not seen by her. It's not saved by her peers."	5	9

Name	Description	Files	References
	CC - “I guess. depending on the level of severity of the disability, students don't want to stand out. Emotional barriers are a big one.”		
Fear of being the problem parent	Having to always advocate for things that should be basic understanding. TT - “Parenting a child with a disability, we spend a lot of time (long pause) being the problem parent. So being the one who's saying this isn't working, you're not doing well enough, this is what we need.”	1	3
Fear of seeing everything as therapy	FM - “I’m just always trading that fine line of it being, I don't want her to see everything as therapy like it might be therapy, but I don't want her to feel like always, she has to have that extra assistance.”	1	1
Finding the right place	Family difficulty finding a dance class that will cater for their needs and “tick” all the boxes. FM - “My concern is to find the right place for her to go. Because I don't want that passion switched off.” TT - “With dance particularly, I looked a lot of places, but we didn't try anywhere else, and it wasn't the sort of thing that I was going to force through on a studio.”	6	36
Activities not planned for the child	Dance classes that don’t plan their activities based on those with possible more difficulty. KT - “I have done dancing. I didn't really like it, though. Because it was very fast pacing and I stop…” TT - “But the class that we went to was really for older the kids. And it just moved too fast for her to keep up, especially given that she went in, not knowing any of it.”	1	4
Family schedule	Dance class needs to “tick” all the boxes for the family to invest their time. KT - “I want to go back to it, but then I had too many things on my way to schedule.” TT - “When you have a child that needs support, you have to multitask, and that's why we stopped dancing, is that we have limited time and energy. And it wasn't meeting..., it wasn't ticking enough boxes to actually dedicate that time to.”	1	4
No classes available	Family difficulties finding a dance class available in the community. TT - “…there was classes for kids with intellectual disabilities. But they really was nothing for kids with those physical disability.” FM - “… I would love to see more arts pushed with	3	6

Name	Description	Files	References
	just as an option, because we're all human beings, and we all come with a different set of life experiences…"		
No skill set	Dance classes that advertise as inclusive but doesn't have the knowledge. FM - "There's a lot of different dance schools, and a lot of them who encourage inclusivity. But you can encourage inclusivity, and still not necessarily have the skills to back that up." TT - "And it's inclusive, what is this skill set? It's one thing to say everyone is welcome, it's something else to say, you're welcome here and we understand your needs and meet them without making a fuss."	4	13
Physical barriers	Place that does not have the right accessibility for children with disabilities. TT - "And it's not even necessarily, that people aren't welcoming it's that they don't understand, the toilets aren't accessible, the activities aren't planned for a child with special needs…" CC - "So the main obstacle that I've found with students that have developmental needs or disabilities was that getting up and down on to our stage was really difficult, and there was no time for anything."	4	4
Miscellaneous	Mixed of comments that I haven't been able to allocate in any theme.	1	1
Systemic changes	JA - "What we do is just massive because dance is not a commonly accepted form of expression. And this is where often I think people have become disillusion in in trying to start dance programs, because the systemic changes have been so enormous, the license of control has changed enormously."	1	1
Participation-based dance program	Participants perspectives on how an inclusive dance class should look like.	6	178
Access point	Having different access points so everyone can engage in dance. JP - "So at all times, you've got your stated options, you've got options where you can stand by a chair for support. So, your cons, creating "Well, this one can be done here, and if you're sitting in a chair this is what you can do now If you're standing up?"	6	17
Assistive Technology	Having option where people can dance using their wheelchair, AFOs, walkers. KT - "Just my new chair. and I wasn't the only one there. There was some that walked and some that couldn't, some that used the wheelchair, some that didn't."	4	5

Name	Description	Files	References
	JP - “If you're using multiple means or universal design, you're using an invitational approach. So there's an access point for all”		
Environmental changes	Changes in the environment to support the child engagement. CC - “So being able to alter a space without students knowing that I’m altering anything specific to them, it's just the whole classes.”	2	2
Family support	Family involvement in the classes. FM - “So for a long time we would, we would be actively involved in supporting her, you know, if there was an activity that she was struggling with. Sometimes the teachers would come and help, sometimes we would come and help.” TT - “…until recently I was one of the volunteers with her ridding class and the wheelchair sports was a family event.”	3	4
Collaborative approach	Dance classes should use a collaborative approach. KT - “Choose what style we are doing, cause what which, what things we are doing, in which order.” JA - “It's very much a collaborative environment, so there needs to be an agreement on, and I call learning. There need to be assistance given between students.”	5	14
Provide freedom and choice	Allow participant freedom and choice of activities for children. CC - “I guess it's just about giving them a bit more freedom and choice within the activities rather than telling them that they need to do something, giving them options or the option to opt in or to choose different varieties of what we would call levels of abilities or activities for them to do.”	5	7
Use invitational language	Giving space for the participant to know at which stage they are and what they can do. JP - “invite the participant just to see where they're at today. Okay, how far my shoulders going to let my arms list, having a body scan a body awareness.” JA - “So nondirective movement ended up based on individual abilities and interests and the person who this is really important in trying to getting the maximum sort of involvement of students at all.”	2	7
Flexibility within structure	Being able to adapt activities to support the child involvement. FM - “So there need to be some modifications. So, whether you find the right teacher who can modify and be happy with that, and she can modify and be	6	76

Name	Description	Files	References
	happy with that, too, or whether we send her in a completely different direction where she can be a bit freer with it.”		
Be open to modifications	JP - “So, rather than trying to implement a set syllabus like, if you were in ballet a R.A.D, or a particular style where you're bound to sort of only think within certain steps and certain sequences and choreography. It's a creative approach definitely…” CC - “I did reinvent the wheel over and over again many times, but I found it was always worthwhile for all students to create units every term based on what was happening in our community, and what students were in front of me”	4	12
Exercise in disguise	TT - “It's a great, it is great exercise. It's great for body awareness. It's a great social activity, and it's fun like it's endorphin releasing fun because there's music and movement, and it's social. I think it's an amazing activity.” RO - “it’s really important to I guess if anything's labelled as an intervention, it almost sounds like less. You sort of get less enthusiastic about it if that makes sense, especially, I think, for children, because, as I said before, they just want to have fun”	4	15
Have different levels of activities	Having different levels of activities without single out student. FM - “I think socially, she gets a lot more out of feeling like she's doing everything at the same way that the other kids are, and the teachers are great in that they offer the level of support that she needs.” RO - “I think catering towards everyone's needs, but not putting one child or one participant above the other. If that makes sense. Like figuring out a way where you can be mindful of all the children, but not so much show it”	2	13
Provide space for creativity	AH - “Music is enjoyable, people have a natural inclination to move. Moving to music is more important than a dance style.” FM - “sometimes you just have to let that creative process go, and you might learn something completely different, and I often find that I’ll have the intention of teaching 3 classes the exact same content. We don't cover the same. It doesn't look the same, you know we might highlight, if we're lucky, we might highlight the things that we plan to”	3	10
Relational approach	Form a relationship with child and have good communication with the family. RO - “You really need to form that relationship with the child and just understand that you can't just follow a recipe.”	6	45

Name	Description	Files	References
	JA - “the communication ability of the group leader is absolutely vital in order to be able to explain what you're doing and why and also to the family and support network.”		
Communicate with network	FM - “to me as a parent anywhere she goes I feel comforted if I feel there's a level of understanding about who she is and what she brings with her before she gets in the room, and it doesn't matter, then if a teacher is not perfect and doesn't know all of the things, that's an unrealistic expectation…” RO - “I also think, being in, I guess, constant communication with the peers and also the parents and guardians I was a studio teacher, and I taught classes with no development difficulties.”	5	16
Create a safe environment	Create an environment where the child will feel safe. JA - “And you know you there as a person and movement is challenging in an environment where you don't feel supported, and so the environment, the sense of being with your peers, being fun, being physically safe, but being heard, you know all those things that we really mentioned, is just absolutely right.” CC - “If that could be explicitly told to the students that that's not going to be a problem. And a teacher can create a safe environment.”	5	7
Understand and accept the person in front of you	RO - “making sure that you identify the limitations. But you also identify the strength of these of these individuals.” FM - “Getting to know the people that are in front of you, and yes, a lot of that is going to be your observation and your interactions with the children, or whatever age participants you're working with in front of you”	3	13
Teacher’s insecurities	Fears and insecurities teaching a child with disability. JP - “And giving teacher supports, because it's scary. A lot of teachers they freak out like oh, my God! You know I've seen it. I've been teaching for so many years. You put a student into the classroom that's autistic or intellectually impaired, they freeze, and they kind of think. Oh, no, no, teacher aid, you deal with that.”	5	35
Being limited by set goals and structure	Tension between creativity and structure. FM - “I do I find it challenging in a being a creative, artistic kind of a space to sometimes work within the realms of, I'm talking more in the context of schools now, but because a lot of schools now they like you to have your goals and your set.”	2	3

Name	Description	Files	References
	CC - “In saying that though, I'm in a high school at the moment, and it's much harder to have fun in dance in the classes, than it was in a primary school.”		
Fear of letting go of structure	Teacher’s fear letting go of structure. FM - “I think I find this challenging, because the way that I role is, I’ll feel the most safe myself, and prepared if I have prepared. So, if I've got a full plan in front of me of how everything will go, then I feel like I've done my homework as a teacher, and I can show up for my students that said the best classes that I have taught are when I've got that plan there, it's there as my safety.”	1	1
Lack of group support	Dance teachers feel isolated. FM - “I loved hearing from other people. It's that's something. Also, I think, as a teacher you don't always get the opportunity.” JA - “Five of us have covered different, really different is, but I think it's been a comprehensive coverage of the approaches that can be used, and so I feel what I work in the isolation all the time.” CC - “as a dance teacher. You can get very much in your own little bubble, and you don't have much connection with people…”	3	6
Lack of training	Dance teacher do not have prior training in working with disability. FM - “Often you are having teachers in front of kids that have relatively little experience, often it's just thrown in.” JP - “That is not enough PD for diverse populations.”	3	10
Time management	Extra time to plan classes, talk to the family and the child network. JA - “…it's that time so much work practitioners in the therapy doing, working with agencies and the systemic background work is enormous.” FM - “And this is where it becomes about time, management, and being able to actually have these conversations and things when we're all very busy. But conversations with physiotherapists, occupational therapists, people who have a bit more knowledge around physical disabilities…”	2	3

Appendix G. Inclusive Dance Class Practical Checklist



ACU
AUSTRALIAN CATHOLIC UNIVERSITY

FINDING THE RIGHT PLACE CHECKLIST

Initial recommendations for enabling participation and inclusion of people with disability in community dance classes

INCLUSIVE DANCE ENVIRONMENT	
BARRIER-FREE ENVIRONMENT	
Have accessible infrastructure (e.g., toilets, parking, stage).	
Offer dancers different ways to engage in classes (e.g., seated dance or standing with a walking aid).	
Have class sizes that allow teachers to engage with all dancers (e.g., move around the class to provide visual and physical feedback).	
INCLUSIVE CURRICULUM	
Design classes based on the principles of equity (e.g., offering classes that cater to different levels of skills and abilities, allocate additional support resources, for dancers who may require extra assistance).	
Provide learning opportunities for dance teachers (e.g., workshops, swap-shops, inclusive training).	
Accept and celebrate all dancers equally (e.g., provide opportunity for dancers to showcase their ability, encourage them to take new risks and learn by moving to music).	
DANCER IDENTITY	
Empower dancers to recognise dance as a form of expression (e.g., allocate time for self-choreography where each dancer can create and perform based on their feelings, experiences, and stories).	
Promote the importance of different dancer roles (e.g., provide opportunities for dancers to try different roles through occasional role-switching activities).	
Ensure the dancer feels represented (e.g., poster and books, with different bodies dancing).	
COLLABORATIVE APPROACH	
DEVELOP TRUST AND SET EXPECTATIONS	
Foster a culture of respect and acceptance (e.g., set norms and expectations at the beginning of the season).	
Encourage open and honest communication (e.g., explain the bigger picture to the people in the group).	
GIVE FREEDOM AND CHOICE	
Be child led! Mediate the class, rather than direct (e.g., create space for co-creation and shared goals with the group).	
Don't assume, ask! Respect the dancer's choices (e.g., give children the ability to choose how they want to engage and be involved).	
WELCOMING AND ACCEPTING LANGUAGE	
Champion all dancers (e.g., value the unique strengths of each dancer).	
Use accessible language (e.g., use simple language to describe movements or provide visuals to support the use of dance jargon).	
Use invitational language (e.g., invite the dancer to engage in movements that are available to them).	

FLEXIBILITY WITHIN STRUCTURE	
BE OPEN TO MODIFICATIONS	
Provide different levels of modification (e.g., find ways to adapt activities to engage the dancer in front of you).	
Respond to the moment (e.g., understand that the daily dynamic can change, and the plan might need to be adapted).	
EMBRACE FUN AND CREATIVITY	
Ensure dance is a joyful experience (e.g., include fun activities/songs that are enjoyed by dancers).	
Use creative activities to engage and involve (e.g., incorporate storytime, freestyle, and opportunities for the dancer to explore their own movement).	
WORK TOWARDS THE RIGHT CHALLENGES	
Celebrate effort and persistence towards a goal (e.g., recognise the dancer's determination and willingness to try).	
Include the dancer on their development journey (e.g., seek insights into the dancer's future aspirations).	
Set realistic goals (e.g., establish achievable goals, add small challenges to the dancer's movement, smaller goals with more frequent attainment).	
RELATIONAL APPROACH	
RELATIONSHIP WITH THE DANCER'S NETWORK	
Keep ongoing communication with the dancer's network (e.g., use a communication board to inform and seek feedback about the dancer).	
Set boundaries with therapists, so dance remains the focus (e.g., establish clear expectations with therapists that they are there to facilitate the teachers' ideas, not to turn it into a therapy session).	
RELATIONSHIP WITH THE FAMILY	
Have an accessible and welcoming space for parents to socialize and watch the classes (e.g., family hub with tea and coffee for caregivers).	
Listen and learn from parents; they know their child best (e.g., invite parents to share their knowledge with the teachers and the community).	
RELATIONSHIP WITHIN THE DANCE COMMUNITY	
Foster long-term relationships (e.g., promote social activities, develop trust between the student, teacher, and parents).	
Get to know the dancers in front of you (e.g., talk to them and their family, listen to their interests and strengths).	
Promote an equal relationship between dancers (e.g., provide opportunities for the dancer to help and be helped).	



Appendix H. Ethics extension approval for Phase Four – Australian Catholic University

Wednesday, November 6, 2024 at 20:58:00 Australian Eastern Standard Time

Subject: [2021-302H] - Ethics Modification Approved
Date: Tuesday 2 April 2024 at 11:13:03 AM Australian Eastern Standard Time
From: Res Ethics EMAIL
To: Michael Cole, Laura Miller, Eduardo Duarte Machado, PeterH Wilson

Dear Laura

Ethics Register Number : 2021-302H
Project Title : Engaging knowledge users in the co-design of a dance intervention program for children with Cerebral palsy.
End Date : 30/10/2023

Thank you for submitting the request to modify form for the above project.

The Chair of the Human Research Ethics Committee has approved the following modification(s):
1. Update to research team: Remove Prof P Wilson and add Prof Laura Miller as the primary supervisor.
2. Extension of project to include new participant group involved in interviews about the usability of the "co-designed inclusive dance approach guide" and associated survey.
3. Addition of an online survey followed by focus groups or interviews to collect feedback from the new participant group in 1 above.
4. Extension to 31/12/2024.
Updated documents: Advert Script 28.03; PIL 28032024; consent form 26032024.

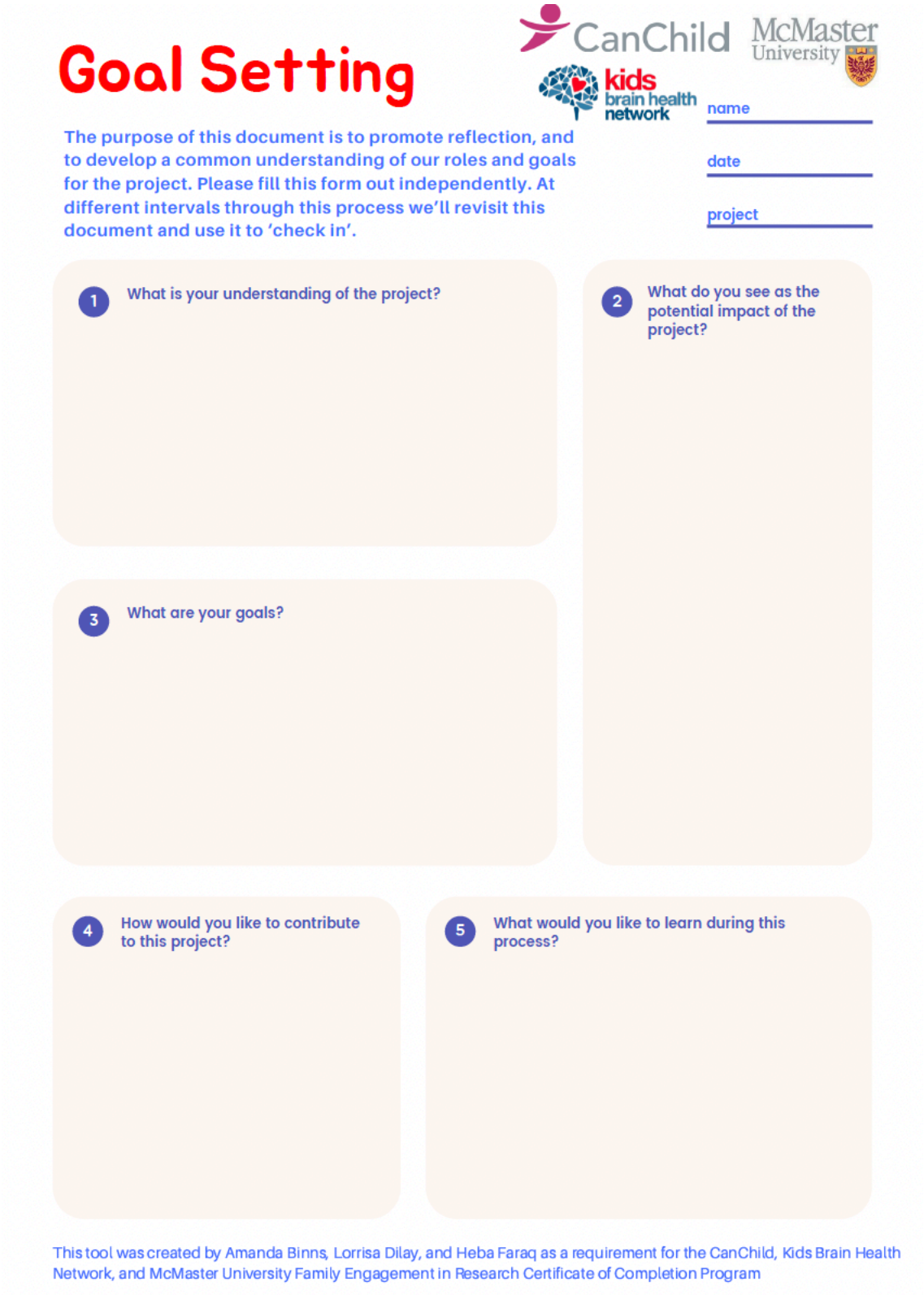
We wish you well in this ongoing research project.

Kind regards,
Res Ethics EMAIL

Research Ethics Officer | Research Services | Office of the Deputy Vice-Chancellor (Research)
on behalf of the ACU HREC Chair, Assoc. Prof Erin Conway
Australian Catholic University
T: 02 9739 2646 E: res.ethics@acu.edu.au

THIS IS AN AUTOMATICALLY GENERATED RESEARCHMASTER EMAIL

Appendix I. FER Goals Setting



Goal Setting

CanChild McMaster University

kids brain health network

name

date

project

The purpose of this document is to promote reflection, and to develop a common understanding of our roles and goals for the project. Please fill this form out independently. At different intervals through this process we'll revisit this document and use it to 'check in'.

1 What is your understanding of the project?

2 What do you see as the potential impact of the project?

3 What are your goals?

4 How would you like to contribute to this project?

5 What would you like to learn during this process?

This tool was created by Amanda Binns, Lorrisa Dilay, and Heba Faraq as a requirement for the CanChild, Kids Brain Health Network, and McMaster University Family Engagement in Research Certificate of Completion Program

6 What skills would you like to develop/extend through collaboration in this project? (e.g., communication skills, analytical skills)

7 What roles within the project would you like to be involved with? (e.g., communicating results)

8 What is your preferred method of communication? (e.g., text, phone, zoom)

How often would you like to receive updates? (e.g., monthly, quarterly etc.)

9 How will you know you've reached your goals?

10 What are your expectations about: The timeline of involvement in this project? (e.g. 6 months, 1 year, etc.)

What are your expectations about the frequency of your participation? (e.g., monthly, bi-monthly etc.)

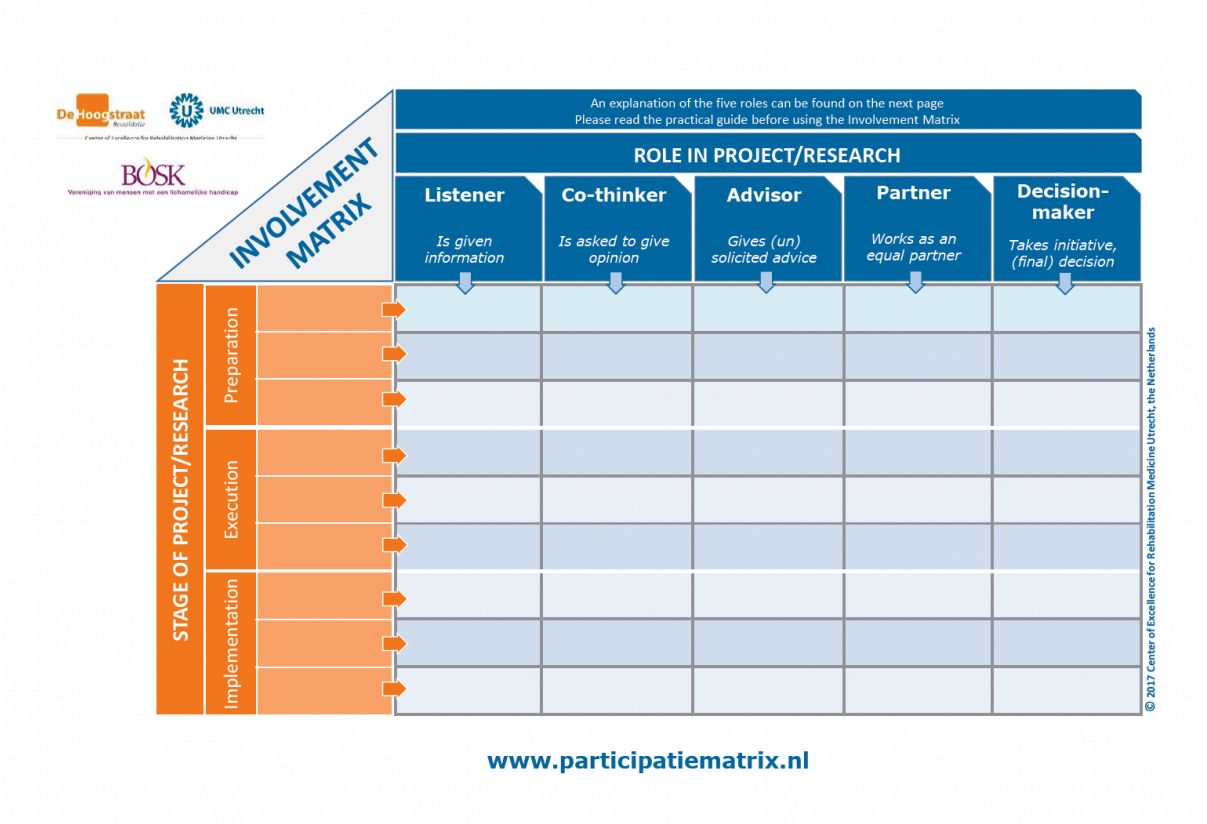
11 What are your expectations about: The timeline for when the results of the research 'take action'/be implemented? (e.g., within a few months, within a year or two etc.)

This tool was created by Amanda Binns, Lorrisa Dilay, and Heba Faraq as a requirement for the CanChild, Kids Brain Health Network, and McMaster University Family Engagement in Research Certificate of Completion Program

Appendix J. Team Charter

Names							
Pronouns							
Goals *What you expect to get out of this partnership?*							
Roles *The formal roles you will hold in this partnership.*							
Responsibilities *What will you do in this partnership?*							
Conduct *How do you communicate best in order to make decisions?*							
Outcomes *What are your expectations of what will come out of this partnership?*							
Values *What is most important to you when participating in a team*							
Family Engagement What does family engagement in research mean to you?							
Email *Please share your email if you would like it to be added to the class email list to be*							
Social Media (e.g., Twitter, LinkedIn, website/blog, etc.)							
Date							

Appendix K. Involvement Matrix



Objective

The Involvement Matrix has been developed to promote **collaboration with patients**[1] (from the age of 12) in projects and research. It is a tool for **project leaders/researchers**. This tool is an aid to dialogue with the patient about the role the patient wishes to play in a project.

Contents

The various **roles** of involvement are shown *horizontally*. The **phases** of a project are shown *vertically*. The proposed main phases are 'preparation', 'execution' and 'implementation', but these can be further specified by the user. Combining the roles and phases results in a matrix containing cells.

Interpretation of the five roles

- ***Listener***
  The person in this role is given information. The project leader takes initiative to provide information either verbally, visually or in writing. For example: the project leader gives the patient the project plan to read.

- ***Co-thinker***
  The person in this role is asked to give his/her opinion. The project leader asks for and considers the patient's opinion, but makes the decision on if (and how) the patient's opinion will be used.
  For example: patients are requested to give their opinions about an information letter for study subjects.

- ***Advisor***
  *The person in this role gives both solicited and unsolicited advice.**
  For example: patients themselves propose improvements to the content of questionnaires.

  * If this advice is solicited, then it is binding for the project; the project leader requesting the advice must conform with it (or in the event of differing advice, it should be resolved by team discussion and consensus). If the advice is unsolicited, it must be dealt with formally; the project leader must present substantiated arguments for not implementing the advice.

- ***Partner***
  The person in this role works as an equal partner. Patients and project leaders have equal influence and work together effectively on planning or products (co-creation).
  For example: patient and project leader write an implementation plan together.

- ***Decision-maker***
  The person in this role takes the initiative and/or makes the necessary decisions. The patient is the key player and the project leader leaves the decisions to him/her.
  For example: patients develop and maintain a website to share information coming from the project.

User information in brief

The Involvement Matrix is intended for use as a guide for the project leader/researcher to have dialogue with patients. Agreements are made on the *roles* that the patient wishes to play and at *which phase*. In this way, the empty cells in the Matrix are filled up with concrete *activities*. Not all these details need to be finalised at once, this can be done as a step-by-step process (e.g. one activity per phase or sub-phase) throughout the project.

Further information on the use of the Involvement Matrix can be found in the practical guide.
Please read the practical guide before using the Involvement Matrix!

www.participatiematrix.nl

[1] 'Patients' can be broadly interpreted here (experience experts; people with a disability, young people, parents, relatives, etc.)

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Appendix L. FER Check In



Check In

CanChild McMaster University

kids brain health network

name

date

project

Referring back to your goal setting document and your experience being involved in the research over the last months please take a moment to reflect on the following questions.

1. What roles have you taken on in the project so far?

2. How are you feeling about your role?

3. Is your participation in the project what you assumed it would be?

4. Do you feel your contribution is meaningful and valued? How do you know?

5. Describe any added stress you might be experiencing from your involvement in the project.

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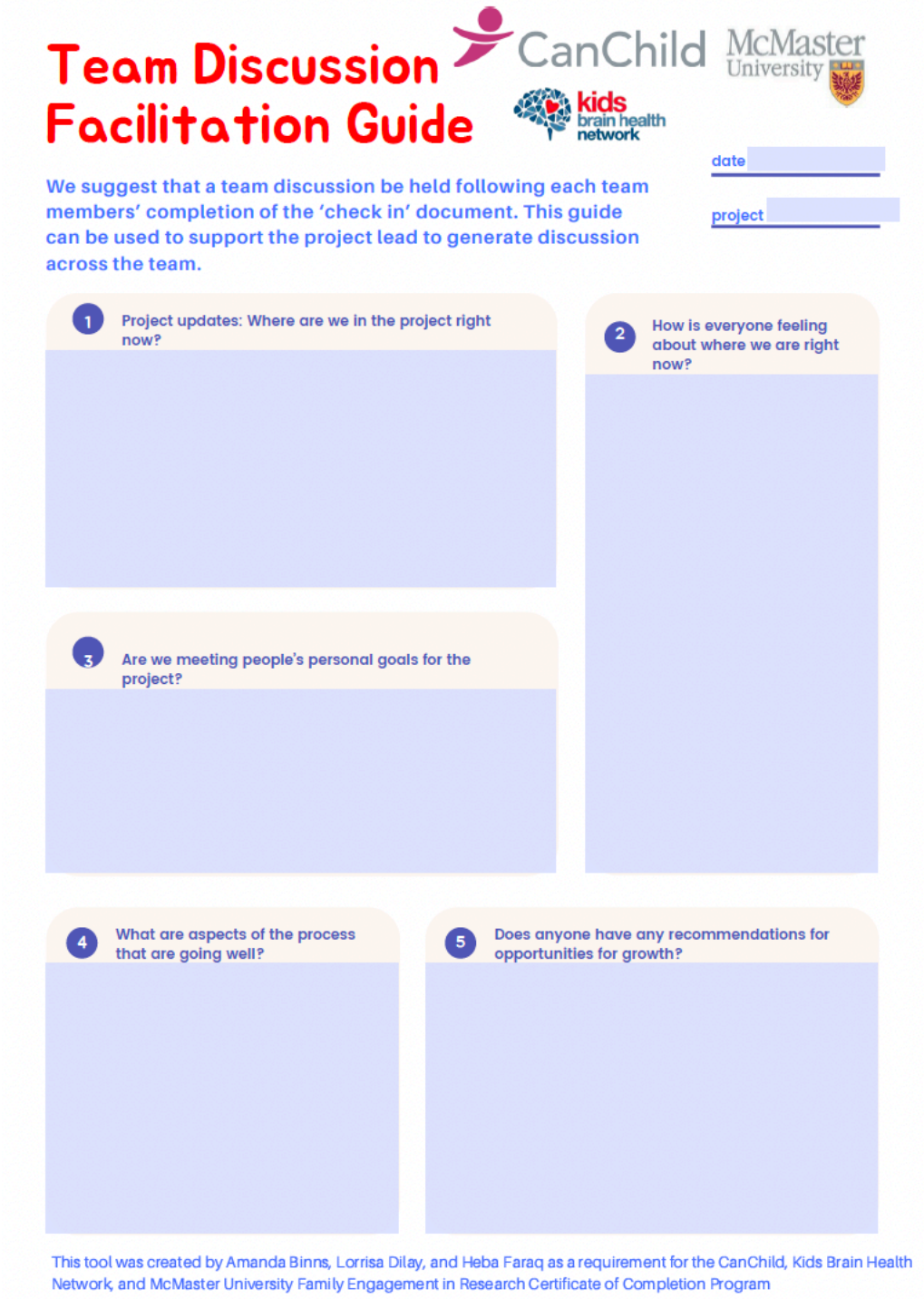
6 Is there anything that could be done differently in the project that might support you with reducing stressors?

7 What have you enjoyed about your experience so far?

9 What would you like to see changed?

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Appendix M. FER Team Discussion Facilitation Guide



Team Discussion Facilitation Guide

CanChild

McMaster University

kids brain health network

date

project

We suggest that a team discussion be held following each team members' completion of the 'check in' document. This guide can be used to support the project lead to generate discussion across the team.

1. Project updates: Where are we in the project right now?

2. How is everyone feeling about where we are right now?

3. Are we meeting people's personal goals for the project?

4. What are aspects of the process that are going well?

5. Does anyone have any recommendations for opportunities for growth?

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6 Did we capture - all of the ideas/suggestions for what we could be doing differently?

7 Is there anything we could be doing to support one another better?

NOTES

This tool was created by Amanda Binns, Lorrisa Dilay, and Heba Faraq as a requirement for the CanChild, Kids Brain Health Network, and McMaster University Family Engagement in Research Certificate of Completion Program

Appendix N. FER: A Conversation Guide

Family Engagement in Research: A Conversation Guide

What is Family Engagement in Research (FER)?

Family Engagement in Research (FER) is a term used to describe a specific kind of research that:

- ✔ Recognizes families as key partners in designing, planning, and carrying out a research project;
- ✔ Provides an opportunity for family partners and researchers to each benefit from being part of the leadership team of a research project;
- ✔ Values all perspectives from families and researchers;
- ✔ Emphasizes collaborative work to add value to research being done with families;
- ✔ Relies on meaningful conversations about what the partnership will look like; and
- ✔ Empowers everyone to be able to participate in impactful research.

Instructions for Using the Guide

Researchers and family partners in research: This tool can guide a conversation around roles and expectations throughout a research project, from start to finish.

Families are encouraged to participate in any and all stages of the research process
Researchers can support family partners' skill development and engagement in each stage

***Stages:** 1) Plan 2) Recruit 3) Do the study 4) Analyze 5) Disseminate 6) Evaluate

- This conversation is intended to be revisited at each stage and throughout the project as needed
- Often, these stages can take place concurrently and/or out of order
- Discussing expectations can maximize family partner input and add value for everyone!

CanChild kids brain health network McMaster University

*From the Ontario Brain Institute's "Ways Community Members Can Participate in the Stages of Research"
This resource was created as part of the McMaster University, CanChild, and Kids Brain Health Network Family Engagement in Research Certificate of Completion Program.
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Family Engagement in Research: A Conversation Guide 2

Stage 1: Plan the Study

- What perspective do you already bring to this study as a family/parent?
- Are there any perspectives that are missing? If so, will we recruit more family partners? How?
- What would a really successful project look like?
- What time commitment are families and researchers willing to put into this project?
- What are the expectations for the researchers? This project?
- Who will be involved in later stages? How?
- Who will be responsible for scheduling regular check-in meetings?
- Is the study design for this population realistic and doable?
- How will we plan for barriers or hiccups?
- What do family partners already know about ethics? How can we fill in any gaps in ethical training (e.g. ethics training)?
- What is our dissemination plan?

Your Conversation:

Examples

- Co-design a set of skills or perspective matrix to ensure all necessary perspectives are included in research team (e.g. different disability types, provinces, lived experience perspectives)
- Co-design terms of reference for research team with two researcher and family partner co-leads to clarify commitments

Family Engagement in Research: A Conversation Guide 3

Stage 2: Recruit & Retain Participants

- How would family partners like to contribute at this stage?
- Is the method of recruitment of this population suitable?
- What do we think of this method of advertising? Is this attractive to the population of interest?
- Do we feel these areas of recruitment are realistic and sufficient?
- Who is responsible for distributing recruitment materials? How?
- Do family partners have any specific networks or connections to help with recruitment?

Examples

- Co-develop study recruitment materials
- Family partners provide access to closed family Facebook groups
- Consult family partners on what variation in perspectives would look like and how to identify these diverse perspectives (e.g. identify rural and Northern Canadian participants)



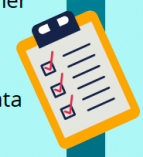
Your Conversation:



Family Engagement in Research: A Conversation Guide 4

Stage 3: Do the Study

- How are we working together to collect data?
- What are our thoughts on the data collection methods for this population (e.g. family partner feedback on interview guide or feedback on survey instrument used)?
- Are family partners comfortable collecting data for this study (e.g. interviews, leading focus groups etc.)?
- What are we doing to help family partners feel more comfortable with their role in data collection?





Examples

- Family partners provide input and revisions to study interview guide for participants
- One family partner is interested in helping with interviewing families—family partner takes ethics training and conducts interviews with family participants



Your Conversation:



Family Engagement in Research: A Conversation Guide 5

Stage 4: Analyze the Results

- Do family partners need any training for their role in analysing results?
- From a family partner perspective of lived experience, do the results make sense?
- Are we incorporating both researcher and family perspectives into these results?
- What have we missed in these results?

Examples

- Family partners review literature discovered during searches, identify relevant documents that are missing but that are relevant and important to families.
- Themes and findings from interviews are discussed with family partners and additional context on significance of key themes identified is provided (e.g. why a specific program is not available in a city)

Your Conversation:

Family Engagement in Research: A Conversation Guide 6

Stage 5: Disseminate the Results

- How can family partners advise on the dissemination plan?
- How can family partners help with disseminating study results to knowledge users? What are the best avenues for dissemination?
- What are the key messages from this study?
- How can we make our findings more accessible to the different knowledge users?
- If you were a parent interested to learn about a study like this, how would you find information about it? Where would you look? How could we get our results there?

Examples

- Family partners help identify key knowledge users and the information that should be included in the final report (e.g. providing a plain language summary of information)
- Develop a Knowledge to Action Policy Dialogue together with researchers and family partners to deliver in a virtual environment

Your Conversation:

Family Engagement in Research: A Conversation Guide 7

Stage 6: Evaluate the Study

- How do the family partners and researchers perceive that the study went?
- Did our roles match our expectations?
- What went well? What did not go well? What suggestions do we have for future studies?
- How can we enhance the experience of family partners?



Examples

- Researchers host a post-study meeting with family partners (questions sent out in advance) to brainstorm and reflect on what went well and lessons to improve our approach
- Co-develop a summary document of lessons learned by both researchers and family partners

Your Conversation:



Appendix O. Survey questions

User consultation on the "Co-Designed Inclusive Dance Approach Guide"

Demographic questions

1. What genre of dance and age group do you work with?
2. What is your geographic location: Remote; Regional or Urban?
3. How many year(s) experience do you have teaching dance for people with disability?

5-point Likert-scale questions

1. The following statements are about the presentation and content of the Inclusive Dance Approach Guide. Please read them and choose the option that aligns best with your opinion.

[Strongly Disagree/ Disagree/ No opinion/ Agree/ Strongly Agree]

- The guide is relevant and useful for my dance practice.
- The language used in the guide is easy to understand.
- The format of the guide is comprehensive.
- The format of the guide is easy to follow.

2. The following statements are about the supporting resources and readings suggested in the guide. Please read them and choose the option that aligns best with your opinion.
   [Strongly Disagree/ Disagree/ No opinion/ Agree/ Strongly Agree]
   - I could easily use the resources to improve inclusivity in my dance practice.
   - I could easily use the resources to plan and develop my activities.
   - I could easily use the tools to identify opportunities for dancers to engage in activities.
   - I could easily adapt and implement the resources in my dance practice.
   - I found the resources were helpful to assess the quality and impact of my initiatives.
3. Would you need help in understanding how to use the resources?

No or Yes → If yes, please specify what kind of help you would need. _____

4. Having been introduced to the Guide, would you be likely to use the inclusive dance approach in your dance practice?

Yes or No → If not, why not? _____

5. Do you already use some of the resources suggested in the Guide in your dance practice to support inclusivity?

No or Yes → If yes, please specify which tool(s) you use _____

Detailed feedback (optional)

If you have specific comments for the "Co-Designed Inclusive Dance Approach Guide", please share them here: (suggestions / amendments to the current guide, structure, language, examples...). This question is optional.

Appendix P. Dance Teacher Reviewers Focus Groups Questions Guide

Our focus group aims to see how well the Inclusive Dance Approach Guide works for dance teachers (Proctor et al., 2011). We want to understand if it fits well with their needs, if it's relevant, useful, easy to use, and practical (Feinstein, 1987). We also want to see how acceptable, needed, easy to implement, practical, and adaptable the guide is (Bowen et al., 2009). This will help us get detailed feedback on how effective and user-friendly the guide is in real dance settings.

1. In the survey it was suggested to have solid-coloured banners at the top of each chapter. How do you feel about this suggestion? Do you think it would help in navigating the guide more easily?
    a. Regarding the guide's visual aids (images, tables, infographics), how effective were they in enhancing your understanding?
    b. Would it be helpful to see resources used in context, such as in lesson plans or through case studies?
2. How clear and appropriate did you find the language used in the Guide?
    a. Were there specific terms or sections that were difficult to understand?
    b. Are there other ways you believe the guide's structure could be improved to enhance comprehension?
3. What aspects of the guide do you find relevant to your current dance practice?
    a. What additional content or examples would make the guide more relevant to your practice?
4. In what ways do you find the guide useful for your dance practice?
    a. Can you share specific examples of where the guide would be particularly helpful or less applicable?
5. What resources (time, materials, training) do you feel are necessary to effectively implement the Inclusive Dance Approach?
    a. Can you describe how you would adapt your dance classes using the recommendations from the guide?
    b. What additional support or guidance would you need to fully implement the inclusive dance strategies in your practice?
    c. Managing fatigue in children with CP has been identified as a significant concern. Based on the recommendations in the guide, what specific strategies would you suggest for effectively managing this challenge in a dance class setting?
6. From your experience, how receptive do you think parents and children will be to the Inclusive Dance Approach? What concerns or barriers do you think they might have?
    a. Are there any cultural attitudes towards dance and disability or organisational barriers within your dance school or community that might impact the acceptance and implementation of the Inclusive Dance Approach Guide?
    b. What strategies could be employed to overcome these barriers and improve acceptance?
7. Based on your experience, what further improvements or changes would you suggest for the Inclusive Dance Approach Guide?

Appendix Q. Co-Designed Inclusive Dance Approach Guide – Inclusion of Children with Cerebral Palsy

This appendix presents the Co-Designed Inclusive Dance Approach Guide, developed as a result of this thesis, aiming to enhance the inclusion and meaningful participation of children with cerebral palsy (CP) in community-based dance classes. The guide integrates insights gathered from Studies 1 and 2 (Chapters 3 and 4) and was co-developed in Study 3 (Chapter 5). Designed for real-world use and implementation, the guide does not follow the same academic style format as the thesis. Instead, it serves as a practical tool to inform and support inclusive dance practices, addressing both environmental and social aspects to foster true participation.

A Co-Designed Inclusive Dance Approach Guide

Inclusion of Children with Cerebral Palsy in Community Based Dance Classes

Development and Disability over the Lifespan
Healthy Brain and Mind Research Centre
School of Allied Health
Faculty of Health Sciences
Australian Catholic University

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Introduction

This guide was developed as part of a PhD program focused on co-creating an evidence-based inclusive dance approach for children with Cerebral Palsy (CP). To do this, we used an integrated knowledge translation (iKT) approach by turning research into action and collaborating with consumers (i) children and youths with CP; (ii) families of people with CP; (iii) health care providers; (iv) dance instructors; (v) dance researchers; and (vi) performing arts teachers to develop an inclusive dance approach that was relevant and meaningful to children with CP and their families. This approach aligned with the disability community and aimed to make research more impactful by involving consumers throughout the entire process.

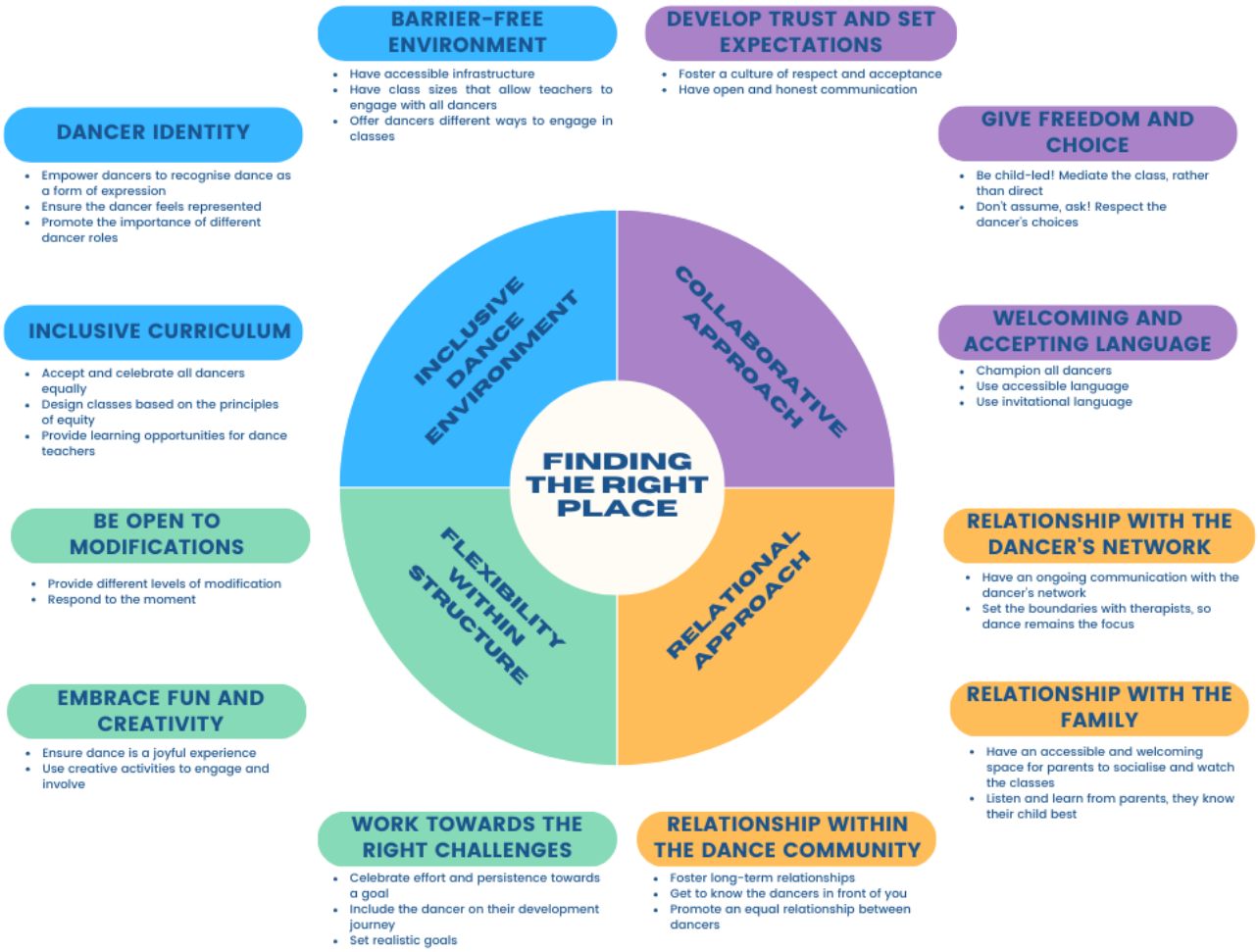
Our co-design journey began by establishing a partnership with a Consumer Advisory Panel (CAP) to oversee the research activities and ensure consumers' concerns and aspirations were understood and considered. We then conducted two rounds of Focus Groups and Individual interviews with consumers to understand their values, priorities, perspectives, and desired outcomes on dance classes for children and youths with CP.

During our interviews, families consistently expressed a pressing concern – "Finding the right place". Parents expressed challenges in finding an inclusive dance classes and uncertainty about the skill and knowledge required to support inclusivity.

"… there's a lot of options available to us here in Geelong. There's a lot of different dance schools, and a lot of them who encourage inclusivity. But you can encourage inclusivity, and still not necessarily have the skills to back that up." (Parent/Dancer/Music Teacher - Parent Perspective)



Four main themes were generated to overcome this barrier: "Inclusive dance environment", "Flexibility within structure", "Collaborative approach", and "Relational approach" as presented in the figure below. By talking to families and dance teachers in our Focus Groups and Individual interviews and engaging in reflexive discussions with the CAP we have developed a practical checklist with twelve subthemes and thirty strategies to promote inclusion and support families finding inclusive dance classes. This checklist was the basis of our co-design workshop discussions and was used to inform the development of this guide.



We then conducted a series of six co-design workshops to map the key strategies and tools to implement an inclusive dance approach for children with Cerebral Palsy. This guide is the result of these workshops, where we brought together the expertise of our research partners from family advocacy, education, and health settings to equip dance teachers with the resources needed to thrive in creating an environment where every child can participate fully in dance.

Creating inclusive dance classes is a dynamic process, shaped by ongoing collaboration with the dancers and their families. Within this guide, you'll discover a number of strategies and resources tailored to support inclusivity. However, listening to the voices of families, reflecting on their feedback, and consistently refining your approach is the key to a successful inclusive dance approach. Now, let's explore how to effectively navigate and apply these strategies within your dance classes.

5 Keys to Using This Guide

(i) Guide Structure:

This guide consists of four chapters, each focusing on a different approach to support you in creating an inclusive dance classes: **(i) Moving towards Inclusivity:** Explores inclusion, accessibility, and inclusive curriculums; **(ii) Collaborative Dance:** Is about encouraging child-led approaches and cultivating a culture of respect and acceptance; **(iii) Nurturing Dance Connections:** Talks about the importance of building relationships with families and dancers; **(iv) The Dance of Flexibility:** Explores how to adapt activities and ensure an enjoyable experience for everyone.

(ii) Holistic Review:

We encourage you to review each chapter thoroughly as they interconnect, forming a cohesive narrative towards inclusivity. It is important to understand how each strategy complements and supports one another.

(iii) Resources:

At the end of each chapter, you'll find a list of recommended resources to support implementation of each approach and strategy:

- **Core Resources:** These resources directly support the strategies outlined in the chapter. Allocate one to two hours for comprehensive exploration of these resources.
- **Additional Resources:** Supplement your understanding and implementation efforts with the extra resources provided.

(iv) Implementation Strategies:

Identify relevant strategies from each chapter that align with your specific context and the children and families in front of you. Consider your own experiences and practices to inform your decisions when selecting and adapting the tools to best suit your community of practice.

(v) Continuous Improvement:

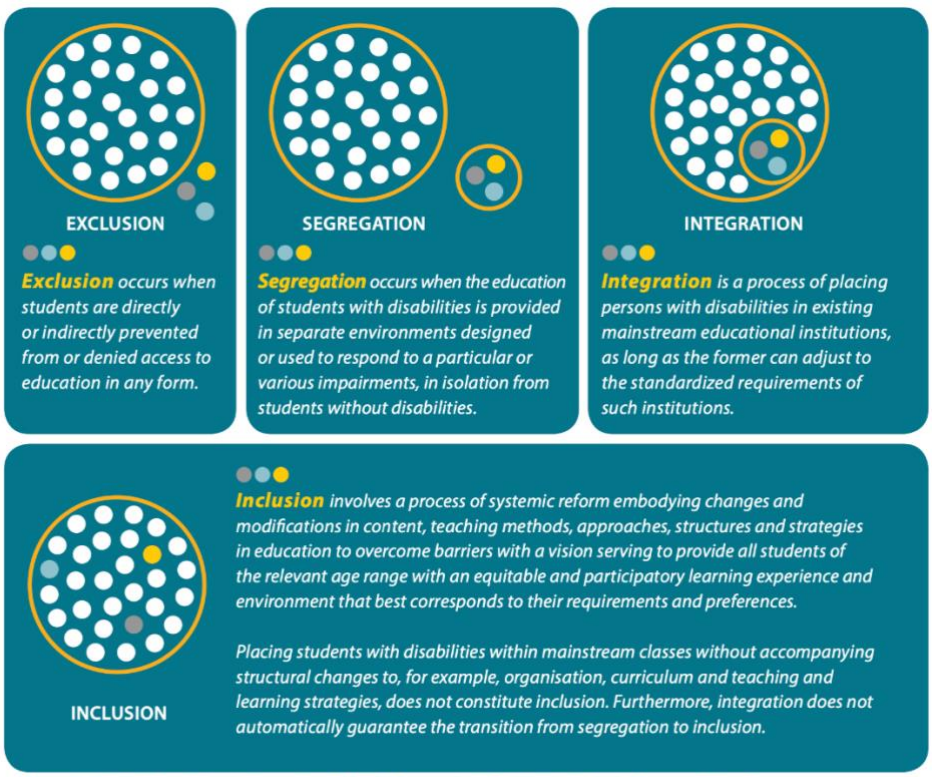
Inclusivity isn't a one-size-fits-all approach. Listen to families, seek their feedback, reflect on outcomes, and continuously refine your strategies to consistently improve your inclusive dance approach.

Moving towards Inclusivity

Chapter One Overview

Welcome to chapter one of our Co-designed Inclusive Dance Approach Guide! This chapter builds on the insights gained from focus groups and interviews with families, to create an environment that celebrates diversity and embraces every dancer's unique strength. Before we go into our resources and strategies to foster an inclusive dance environment, it is important to understand the essence of inclusion and its impact on families.

According to the United Nations Convention on the Rights of Persons with Disabilities (2016), inclusion is a wholistic approach that involves innovation in training approaches, methods, structures and strategies to overcome barriers and foster full participation of students with disabilities in everyday life. The evidence report, "A summary of the evidence on Inclusive Education" by Hehir et al. (2016), shares case studies and research to promote inclusive education—it's a great starting point to understand inclusivity.



Source: United Nations Committee on the Rights of Persons with Disabilities General Comment No. 4 (http://www.ohchr.org/Documents/HRBodies/CRPD/GC/RighttoEducation/CRPD-C-GC-4.doc)

Dance is a form of communication and self-expression. An inclusive and accepting dance environment provides learning experiences where everyone, regardless of their abilities, is acknowledged and respected (Purcell Cone, 2015). For families, an inclusive dance space is not

about placing the child with Cerebral Palsy away from the group in a dance class. An inclusive dance class should provide the necessary support and changes for the child to be part of the group and to be involved with their peers.



"… sometimes people think inclusion is like "oh look you got the swimming lane all to yourself". But really, inclusion is having the support you need, but being part of the group. So, inclusion doesn't mean just go into dance, but being able to be involved with his peers in a way that he can engage and enjoy it." (Support Worker supporting a 7-year-old dancer with CP)

As an artistic and creative experience, dance can foster participation and inclusivity of children with CP (Duarte Machado et al., 2023). In an inclusive dance environment, dancers with disabilities learn that there are no limits to what they can learn or do (Purcell Cone, 2015). During our Focus Group discussions dance teachers and therapists expressed the importance of dance as an entry point to participation in physical and social activities.

"… dance has always been a form of human communication and expression. It's the basis for community building and human relationships, and therefore it's one of the most positive forms of exercise or physical participation that all people can participate in to (at) different levels." (Dance Movement Therapist)



This chapter provides actionable strategies for you to implement inclusive dance classes. We provide resources for accessible infrastructure, equity-based dance classes, and learning opportunities for dance teachers in four sections:

	Chapter Sections	Pages
i	Creating Inclusive Dance Spaces	8
ii	Developing Inclusive Dance Curriculum	11
iii	Fostering Dancer Identity	14
iv	Learning Opportunities for Dance Teachers	16

Creating Inclusive Dance Spaces

When placing children with disabilities in mainstream environments, structural changes need to be embedded to guarantee inclusion (United Nations Convention on the Rights of Persons with Disabilities, 2016). Everyone has the right to participate in artistic and cultural experiences, however, people with disability face numerous barriers to participation, including those of environmental, organisational, and attitudinal origin (Office for the Arts Commonwealth of Australia, 2018). For families, it is important to have an open dialogue when implementing accessibility to cater to the diverse needs of every dancer.



"We unfortunately live in a world which has been designed for able-bodied people, and we're trying in the now (to) redesign it to include everyone, which is a much harder task than if you've designed something, I'm just talking about physical buildings at this point" (Parent/Dancer/Music Teacher - Teacher Perspective)

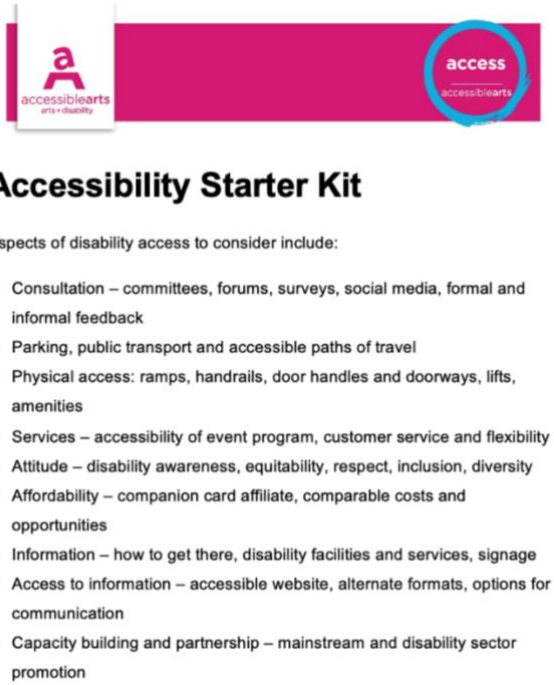
On the Accessible arts panel conversation "**ACCESS, Ideas and Insights: Performing Arts March 2022**", Janelle Ryden (Sydney Opera House Accessibility Operations), Joanne Key (Riverside National Theatre of Parramatta Executive Producer) and Justine Sher Pearson (CEO and Executive Director of PACT) talk about strategies and approaches their organizations have taken to advance the rights and opportunities of people with disability to have equitable access to arts.

The "ACCESS, Ideas and Insights" video is an additional resource, however, for this section, we would like to highlight the 8-minute discussion between minutes 17:10 and 25:07 when the panel share some effective ways to improve accessibility.

https://youtu.be/RfHadekrtKg?si=jYeG0ZR8h96fQmyc&t=1030

Strategies to improve accessibility
1. Listen and learn from people with lived experience.
2. Employing people with lived experience.
3. Collaborate with people with lived experience.
4. Partner with other organizations to create a network.

The lack of physical access in performance spaces can be an issue for dancers with disabilities, however, when considering accessibility for young dancers with Cerebral Palsy, it is important to not only consider access to appropriate training and performance environment, but also access to social spaces such as cafés within the venue or dance studios (Aujla & Redding, 2013; Reinders et al., 2015).



Among the strategies to improve accessibility was the importance of collaborating with people with lived experience to understand their needs. We will discuss more about ways to collaborate with families and young people with CP in chapters two and three, but for this chapter we recommend the Starter Kit checklists from Accessible arts which provide a simple audit tool to appraise access.

https://aarts.net.au/wp-content/uploads/2022/08/AA-Accessibility-Starter-Kit.docx

For easy practical examples of how to promote dancer engagement in classes, we recommend the AllPlay Dance video series:

The “Using different learning styles to teach ballet technique” video from AllPlay Dance explores ways for dance teachers to engage children with disability in the class through different learning styles, such as visual, auditory, kinaesthetic, or physical (2:59 mins)

https://www.youtube.com/watch?v=6TnITXUwCX0

The video “An introduction to teaching ballet to students with disability” provides four tips to include children with disabilities in dance classes, such as positive attitude, listening to the child, changing strategies, and considering class sizes to allow you to engage with all dancers (3:31 mins)

https://www.youtube.com/watch?v=RIKnFS1Zo-U

Limited class time, budget constraints, and lack of training are some of the constrains that you may face when including children with disabilities in dance classes, however, adapting dance movements can be achieved in any dance class because each dancer's body is different (Matzner, 2015; Seham & Yeo, 2015). This school dance teacher tells us that developing dance classes starts with the people she has in front of her, encouraging a feeling of inclusion for everyone in her class.

"I did that. I did reinvent the wheel over and over again many times, but I found it was always worthwhile for all students to create units every term based on what was happening in our community, and what students were in front of me, and what students were presenting, and how I could best create a unit that catered for all of their abilities."
(School Dance Teacher)



For a practical example of how to work towards full accessibility for all people with disability in your dance practice, we recommend you visit AXIS Dance Company website and review their accessibility statement.

AXIS Dance Company acknowledges that there is no 'perfect' way to provide access for all and commit to learn and listen from dancers through their feedback/accommodations channel.

https://axisdance.org/about/accessibility-statement/

Developing Inclusive Dance Curriculum

Inclusive dance classes should empower dancers by offering multiple means of engagement. Part of being an inclusive dance program goes through reviewing approaches and methodologies to ensure everyone is included and valued in the classes. To effectively shape the dance program and develop an inclusive curriculum, dance teachers should embrace a holistic dance education practice (Morris et al., 2015). Dance teachers tell us that the inequality of power in a dance class should be diminished, and a more democratic teaching and learning practice encouraged to achieve true inclusion. This means eliminating barriers to engagement and celebrating individual preferences and abilities.



"… she designed her classes around those students who might have had more challenges, and I think that perhaps is more of that inclusivity model, rather than that integration kind of model, which we might have as teachers in the past gone for, everybody's included, but we're essentially focusing on this group of students." (Parent/Dancer/Music Teacher - Teacher Perspective)

The Universal Design for Learning (UDL) approach aims to eliminate barriers to learning for all students by engaging and challenging the student at their own level (Lieberman et al., 2008). For easy implementation of the UDL approach, we recommend Dr. Thomas Tobin's 5 steps to reduce barriers, presented at the UDL Symposium from the Australian Disability Clearing House on Education and Training (ADCET).

5 Steps to Implement UDL	
Start with Text	Begin teaching with words or reading materials.
Make Alternatives	Create different ways to learn, like videos or pictures.
Let'em do it their way	Let students learn in the way that's best for them.
Go Step by Step	Break big things into smaller parts to make learning easier.
Set Content Free	Allow different ways to learn, so everyone can learn their own way.

https://youtu.be/WoHaCaG43Mk?si=HiRU9HMQ_0NiJyZ8&t=1340

We acknowledge that the application of UDL in dance challenges the idea of *"adaptation"*, instead of altering movements to fit one person (which can often single out dancers), we advocate for the use of *"try another way"*. Where the dancer transforms the original movement into their own style, keeping the main idea of the concept but adjusting body part, time and space (Koch, 2010). This approach aligns with what dance teachers and families have told us, to keep a consistent language throughout this guide we have opted to use "try another way" instead of adaptation, modification, or variation.

"You are inviting them; you're not demanding them. And when you invite them, and they give you a response or an offering, you accept it. You give that positive feedback"
(Community Dance Teacher)



However, if you need a framework to support your practice, we recommend the 'FAMME' (Functional, Approach, Modifying, Movement and Experiences) model. This model supports teachers implementing the UDL approach (Lieberman et al., 2008). By implementing the FAMME model, dance teachers can ensure opportunity for reinterpretation of movement for all dancers.

FAMME MODEL		
Step 1	Determine Components of Skill	All tasks require a level of ability unique to each dancer, trying to complete the task another way can ensure success.
Step 2	Determine Current Capabilities	Regularly assess the dancer's base abilities, this offers a comprehensive understanding of each dancer's skill set.
Step 3	Give opportunity to try another way	Give opportunity to try all tasks within a lesson, another way to ensure that any dancer could come to the class and participate fully.
Step 4	Evaluate Strategies	Evaluate the effectiveness of the strategies used to provide access to all dancers.

For a practical application of UDL in dance teaching, read "Universal Design for Learning: Why Does it Matter to Dance Teaching?" by Patricia Reedy. In her article, Reedy highlights the transformative potential of UDL principles.

https://dancersgroup.org/2013/10/universal-design-for-learning-why-does-it-matter-to-dance-teaching/

Fostering Dancer Identity

In this section we will talk about tools and strategies to promote attitudinal changes. The dance community (friends, teachers, and family) play a fundamental role in self-identity and acceptance. The dance environment needs to be extremely safe, and the group needs to be accepting and respectful for the child to understand that dance is a form of self-expression. And often, this involves fostering a sense of self that comes from internal and external influences.



"..... the whole class would need to be incredibly accepting of things not working out the way that perhaps the teacher expected. So, it is going to look different, it's going to be harder. You would need an environment where that was incredibly safe. And that has more to do with other students, perhaps, than the teacher as well." (Ballroom Parent)

Attending to a new space can feel overwhelming and anxious, especially in a dance environment where there is a challenge with body movement. If the child doesn't feel supported by their teachers and peers, this will lead to an increased level of defensiveness.

"… when anybody walks into an unknown space for the first time, there's always a little bit of anxiety, a little bit of anxiousness about what this is going to look like for me. But many of us have the benefit of walking into a space on an even footing, or feeling like we're on an even footing with the people around us, whereas somebody who comes into a space who brings with them a disability also has that anxiety whether the person in charge is going to look after them, and see them for what they need, and be there for them, and also their peers." (Parent/Dancer/Music Teacher - Teacher Perspective)



Understanding how dance teachers can contribute to a sense of community among dancers can play an important role in reducing anxiety and discomfort. A supportive community will encourage dancers to explore new movements, assume different roles and work together (Cameron Frichtel, 2017).

The AllPlay Dance video “Top tips for anxiety” explores ways to encourage dancers to engage in different activities and partner with peers to reduce anxiety and increase participation.

https://www.youtube.com/watch?v=6J8vi5P7xlM

Encourage social connections and shared learning experiences among dancers through activities such as partner mirroring, community circle, group sculpture and peer labelling can support the development of a safe environment, promote cultural diversity and self-identity, and bring social justice to the dance environment (Downie, 2022; Gallagher-Escobar, 2023). All dancers should feel welcomed and valued in the dance space. According to Gallagher-Escobar (2023), dance teachers can do this by ensuring that dancers feel represented with posters and images of different bodies dancing, or showing videos of dancers who represent diverse cultures, identities and bodies. This aligns with what families tell us.

“Honestly, another thing, is them seeing themselves, it is so important. And I think, even to have teachers who have disability experience in front of them. I think that would be an amazing thing to see. We're at the moment still seeing a lot of able-bodied people working with disabled people, which is great, but that would be a really empowering thing.” (Parent/Dancer/Music Teacher - Parent Perspective)



It is important for children to feel represented and see themselves in the dance community, ensuring representation is simple and powerful strategy to develop a dancer identity. The short videos from Jurg Koch integrated dance training provide good representation of duets and group choreographies with diverse dance bodies.

Duets – https://www.youtube.com/watch?v=Rsq32_9_tPk

Group – https://www.youtube.com/watch?v=OrmqB2_68qs&t=29s

For a practical example of how to ensure a diverse visual representation of dancers in your communication channels, we recommend AXIS Dance Company website.

https://axisdance.org/about/

Learning Opportunities for Dance Teachers

Inclusion should allow equitable opportunities for dancers to reach their full potential. However, often dance classes for young people with disabilities lean to a recreational approach and lack technical development (Urmston & Aujla, 2019). Families tell us that fun is their number one priority. They want their children to enjoy dance and have fun with peers, but they also want their children to learn new skills and develop to their full potential.

"I want her to continue to enjoy that and to love that, but I want her to be taught well as well. I want someone who can teach her to the level that she's at, she has a lot of skills. She moves beautifully to music." (Parent/Dancer/Music Teacher - Parent Perspective)



Dance teachers have identified that the lack of training available is one of the most significant barriers for them to develop inclusive dance classes. There is a reduced number of accredited courses and vocational training available for dance instructors of people with disabilities (Aujla & Redding, 2013; Reinders et al., 2015). Increased focus should be placed on developing dance approaches with qualified instructors, relevant pedagogy, and appropriate complementary training (Aujla & Redding, 2013; Urmston & Aujla, 2019).



"So, today it all comes down to the teacher's knowledge, the teacher's willingness to continue developing their knowledge. Access to different PDs [Professional Development], beyond just a dance studio PD. Join and have a look at the different organisations that do webinars and keep up to date with the research, also talk to the family and find out what the physios are saying. It is not one size fit all." (Community Dance Teacher)

To empower dance teachers with the knowledge and tools to promote inclusive dance, it is essential to provide diverse learning opportunities and professional development. We have selected a list of various resources such as podcasts, webinars, workshops, and network opportunities to enhance the learning experience for dance teachers and dancers with disability who desire a qualification in dance.

1) Podcasts can provide dance educators with a convenient and accessible way to engage in ongoing learning. All Bodies Dance podcasts offers insightful discussions and interviews with dance artists committed to prioritising accessibility in their practice (https://www.allbodiesdance.ca/general-clean-1).
2) The National Dance Education Organization's (NDEO) webinar series, "Dance and Disability," provides opportunities for dance teachers to reflect on their teaching practices (https://vimeo.com/showcase/9094221).
3) BAM Movement provides an immersive and explorative journey into the realm of inclusion in their blog (https://www.bustamovedance.com.au/blog) and dance teachers can access valuable insights and strategies for inclusive teaching through their engaging webinar series (https://www.bustamovedance.com.au/danceanddisability).
4) Dancing Wheels Company offers monthly virtual class training in physically integrated dance in the world (https://dancingwheels.org/professional-training/virtual-classroom/).
5) AusDance is Australia's peak dance body and, on their website, you can explore the national qualifications within the dance industry (https://ausdance.org.au/articles/details/national-qualifications-for-the-dance-industry)
6) Restless Dance has an education program that support dancers to powerfully express themselves through movement, regardless of their experience level, allowing them to push beyond their perceived limitations (https://restlessdance.org/schools/)

Resources Summary

Resources	Links	Core time	Additional time
A summary of the evidence on Inclusive Education	https://alana.org.br/wp-content/uploads/2016/12/A_Summary_of_the_evidence_on_inclusive_education.pdf		30 mins
ACCESS, Ideas and Insights	https://www.youtube.com/watch?v=RfHadekrtKg&t=1030s	10 mins	60 mins
Accessibility Starter Kit checklists	https://aarts.net.au/wp-content/uploads/2022/08/AA-Accessibility-Starter-Kit.docx	15 mins	
"Using different learning styles to teach ballet technique" video	https://www.youtube.com/watch?v=6TnITXUwCX0	3 mins	
"An introduction to teaching ballet to students with disability" video	https://www.youtube.com/watch?v=RIKnFS1Zo-U	4 mins	
AXIS Dance Company accessibility statement.	https://axisdance.org/about/accessibility-statement/	3 mins	
AllPlay Move: Dance for Teachers & Studios	https://allplay.org.au/allplay-move-dance-for-teachers/		30 mins
Dr. Thomas Tobin's workshop at the UDL Symposium from the ADCET	https://youtu.be/WoHaCaG43Mk?si=HiRU9HMQ_0NiJyZ8&t=1340	15 mins	60 mins
Article – Universal Design for Learning: Why Does it Matter to Dance Teaching?	https://dancersgroup.org/2013/10/universal-design-for-learning-why-does-it-matter-to-dance-teaching/	5 mins	
"Top tips for anxiety"	https://www.youtube.com/watch?v=6J8vi5P7xlM	5 mins	
Jurg Koch's integrated dance training – Duets	https://www.youtube.com/watch?v=Rsq32_9_tPk	4 mins	
Jurg Koch's integrated dance training – Group	https://www.youtube.com/watch?v=OrmqB2_68qs&t=29s	6 mins	
AXIS Dance Company website	https://axisdance.org/about/	5 mins	
Training Opportunities	Page 17 of this guide	15 mins	
Total Extra Time			**3 hrs**
Total Core Time		**1.5 hr**	

Collaborative Dance

Chapter Two Overview

Welcome to chapter two of our Co-designed Inclusive Dance Approach Guide! This chapter will continue to build on the insights gained from focus groups and interviews with families, we will explore actionable strategies to foster collaborative partnerships among teachers, parents, and the community within dance studios.

A collaborative partnership happens when everyone involved shares responsibility and accountability for the key decisions and goals, it is based on trust and sense of community (Suppo & Swank, 2019). In dance, collaborative learning can be democratic, inclusive, and bring social justice to the group (Shilcutt et al., 2021).



“The goals are determined by the group; the group leader is very aware of dynamics in the group and how they impact on people's ability to participate. And there'd be decision making in the group by the group members and the importance of establishing an open and trusting relationship, and if there's such a thing as bringing social justice into the group.” (Dance Movement Therapist)

This partnership shifts away from the idea that the teacher makes all the decisions and choices, and recognises the knowledge each dancer brings (Shilcutt et al., 2021). It allows the dancer to own their dance experience, and establish a sense of trust between dancers and dance teachers (Petsilas et al., 2019; Shilcutt et al., 2021).

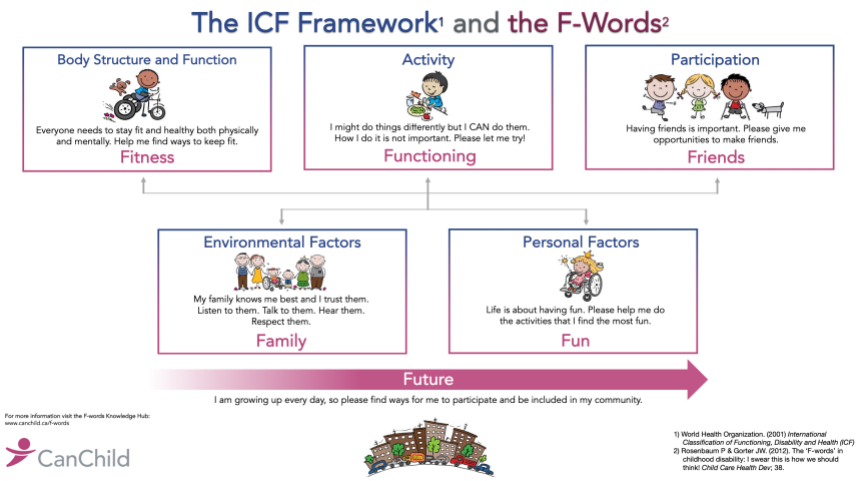
"… that sense of trust too, going both ways, it's a big thing for kids with disabilities to be able to advocate for themselves and say, that's something that's hard for me. I can't do that with my body. But then for a teacher to be able to engage with students and say, is this too hard for you? Do you think this is something we could work towards and have those conversations, because I think sometimes as a teacher that can be really scary, because you don't want to say the wrong thing, and you don't want to upset the students that are in front of you ..." (Parent/Dancer/Music Teacher - Teacher Perspective)



Before diving into tools and strategies for collaboration, it is important to introduce the two frameworks that will serve as the basis of our conversation for the next three chapters: the Conversations for Collaboration framework and the F-words framework. These will shape most of our discussions and strategies. It's a good idea to familiarise yourself with these frameworks as they'll be valuable resources for our journey ahead.

Conversations for Collaboration framework – This framework aims to encourage open discussions and foster partnerships between students, parents, and educators. It's flexible and adaptable to suit the unique needs of individual students, parents, and educators in their local contexts. The framework supports parents and educators to comprehend the significance of inclusion. As an additional resource, please review the values and principles of the framework before working though the guide's activities – https://conversationsforcollaboration.com/about/

F-words Framework – The F-words framework is a strength-based framework that focuses on the six essential areas of child development. It encourages families and professionals in child development to consider the things a person can do and what matters most to them. We recommend you watch the F-words video before reviewing our activities – https://vimeo.com/252166407



ICF Framework and the F-Words poster (P. Rosenbaum & J. W. Gorter, 2012)

The sections below provide resources to support you establishing norms and expectations, while running child-led class and activities, and using accessible language in three sections:

	Chapter Sections	Pages
i	Establish Norms and Expectations	21
ii	Child-Led Class Resources and Activities	23
iii	Accessible Language Resources	25

Establish Norms and Expectations

Research indicates that creating connections within a community can help make collaborative methods more effective. When there's a strong sense of community, appreciation and acceptance can be promoted (Suppo & Swank, 2019). Families find that acceptance is easier when people are informed. Therefore, it is crucial to establish norms and expectations at the beginning of the session.



"… establishing, this is what we expect when we come to class. I think there's a lot of education that still needs to be done. And again, possibly because we do have specialist schools where not all kids are seeing all kids. They're seeing a representation of themselves, mostly. There's a lot of kids with disabilities in mainstream schools, (child's name) will be one of them, but they're few and far between." (Parent/Dancer/Music Teacher - Parent Perspective)

To foster a culture of respect and acceptance within the dance studio, it's crucial to establish a clear vision and goals for the dancers. Module 2 of the Conversations for Collaboration framework defines vision as looking at where the dancer currently stands and where we aim to take them. It is important to set concrete goals and strategies to get where the group wishes to be and ensure that the dancers' voices are heard. This module provides additional resources to support the group to develop vision, goals, and strategies. This approach will contribute to fostering a welcoming and positive environment within the dance community. We have selected three tools that can be easily adapted to support you developing a vision for the group and setting goals and expectations:

The "Vision in The Classroom" tool from the Conversations for Collaboration framework could be adapted to the "Vision in The Dance Studio", you can use this tool to develop a vision with each dancer.

https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M2-resource5-vision-in-classroom.pdf

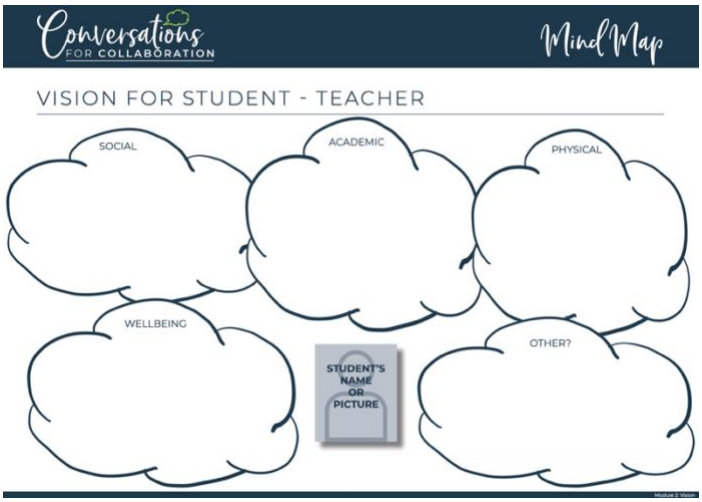

Conversations FOR COLLABORATION

All About My Student

VISION IN THE CLASSROOM

Complete this table to get you started in thinking about areas of curriculum or planning in which you can enable the student's vision.

AREAS OF CURRICULUM	CURRICULUM GOALS	PLANNING	STUDENT VOICE/ VISION	IS THE VISION ENABLED	IS THE VISION PUT AT RISK

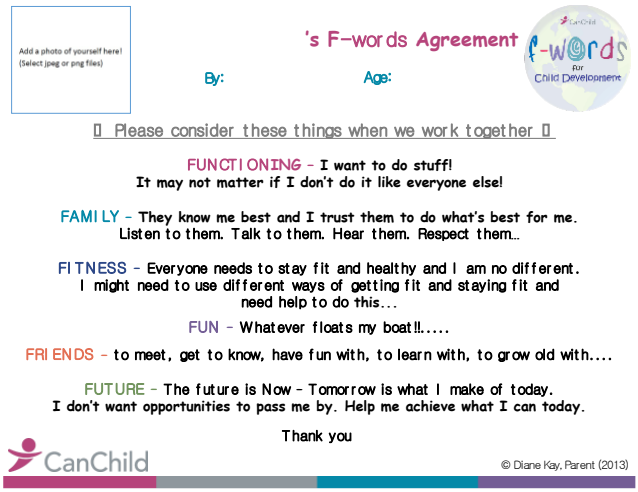


Another great tool from the Conversations for Collaboration framework is the “Vision for Student – Teacher” mind map. You could use this tool to develop a vison for the whole class and work on shared goals, you can even incorporate some of the F-words into this vision mind map.

https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M2-resource1-vision-mind-map-teacher.pdf

Once the dancers have developed their vision individually and in groups, we encourage you to develop an agreement that will reflect your students’ and families' values. The 1-page F-words agreement is a good example and a starting point to share expectations about what is important for the children and their families.

https://canchild.ca/system/tenon/assets/attachments/000/003/857/original/F_Words_Agreement_Template_20Dec2021.pdf


Add a photo of yourself here! (Select jpeg or png files)

's F-words Agreement

By: Age:

F-words For Child Development

Please consider these things when we work together

FUNCTIONING - I want to do stuff!
It may not matter if I don't do it like everyone else!

FAMILY - They know me best and I trust them to do what's best for me.
Listen to them. Talk to them. Hear them. Respect them...

FITNESS - Everyone needs to stay fit and healthy and I am no different.
I might need to use different ways of getting fit and staying fit and need help to do this...

FUN - Whatever floats my boat!!.....

FRIENDS - to meet, get to know, have fun with, to learn with, to grow old with....

FUTURE - The future is Now - Tomorrow is what I make of today.
I don't want opportunities to pass me by. Help me achieve what I can today.

Thank you

CanChild

© Diane Kay, Parent (2013)

Child-Led Class Resources and Activities

Students experience a sense of belonging and community, when there is a common goal and respect toward one another (Cameron Frichtel, 2017). It is important to create an inclusive space that values co-creation, shared goals, and individual expression within the dance group.



"So, to kind of have that ability to be able to choose what (activity), which one takes the most energy, which one we should do at the end, because its less energy rising. That sort of thing." (10-year-old dancer with CP)

"Thinking about specifics, I guess it's just about giving them a bit more freedom and choice within the activities rather than telling them that they need to do something, giving them options or the option to opt in or to choose different varieties of what we would call levels of abilities or activities for them to do." (School Dance Teacher)

An integral part of adopting a child-led approach is to understand the dancers' choices and embrace their unique experiences (Cameron Frichtel, 2017).

In Module 1 of the Conversations for Collaboration framework, you'll find tools to implement a student-centred approach. By actively listening to dancers' experiences and integrating their ideas into the class, you empower them to take on creative and leadership roles (Shilcutt et al., 2021). The following resource will help you understand the dancers' preferences, enabling you to incorporate some of their favourite songs and activities into the class.


Conversations FOR COLLABORATION — All About Me

ALL ABOUT ME - YOUNGER STUDENT

What are your favourite things to do?

What is your favourite subject?

What things are you interested in doing?

What do you want to learn or get better at this year?

Who do you like to be with?

What places do you like to visit?

What makes you happy?

What makes you less happy?

How do you show a teacher /other student that you are not as happy?

How can your teacher help you to be more interested?

On weekends I like to:

My strengths are:

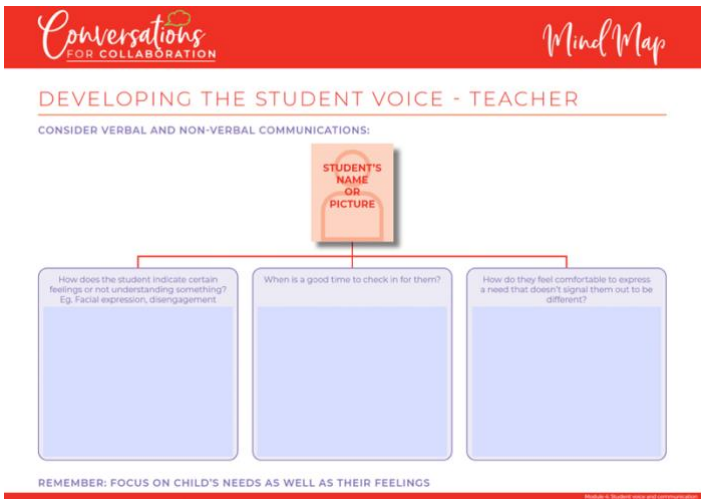
I may need more support with:

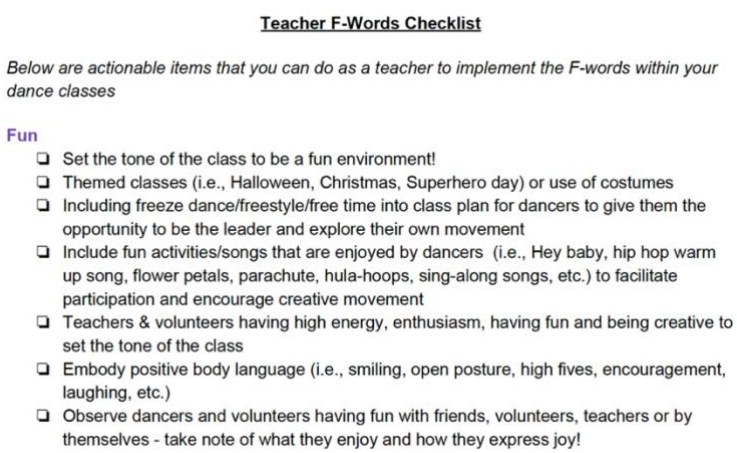
https://conversationsforcollaboration.com/wp-content/uploads/2020/07/M1-Younger-student-this-is-me.pdf

Empowering dancers' voices doesn't exclude teachers from the decision-making process; instead, it involves inviting dancers to actively participate in their learning journey alongside teachers (Shilcutt et al., 2021). Each dancer's unique experiences contribute to the spectrum of learning (Cameron Frichtel, 2017).

In Module 4 of the Conversations for Collaboration framework, you will find resources and activities designed to encourage and include dancers' voices in all discussions and decision-making processes. We encourage you to adapt the "Developing the Student Voice" mind map to use in a dance studio setting.

https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M4-resource4-developing-student-voice.pdf





Teacher F-Words Checklist

Below are actionable items that you can do as a teacher to implement the F-words within your dance classes

Fun

- ❑ Set the tone of the class to be a fun environment!
- ❑ Themed classes (i.e., Halloween, Christmas, Superhero day) or use of costumes
- ❑ Including freeze dance/freestyle/free time into class plan for dancers to give them the opportunity to be the leader and explore their own movement
- ❑ Include fun activities/songs that are enjoyed by dancers (i.e., Hey baby, hip hop warm up song, flower petals, parachute, hula-hoops, sing-along songs, etc.) to facilitate participation and encourage creative movement
- ❑ Teachers & volunteers having high energy, enthusiasm, having fun and being creative to set the tone of the class
- ❑ Embody positive body language (i.e., smiling, open posture, high fives, encouragement, laughing, etc.)
- ❑ Observe dancers and volunteers having fun with friends, volunteers, teachers or by themselves - take note of what they enjoy and how they express joy!

Another great tool to ensure that dance teachers are being child-led is the Teacher's Self-Feedback Form, developed by The Dance Ability Movement (DAM) based on the F-words. It provides actionable items that dance teachers can use to implement the F-words.

https://canchild.ca/system/tenon/assets/attachments/000/003/134/original/DAM_Teacher_F-Words_Self-Feedback_Form___Checklist_(1).pdf

Accessible Language Resources

Families tell us that communication is an essential element of an inclusive approach. Encouraging open and honest communication with children ensures they feel informed, welcomed, and accepted. Inclusive communication involves making language accessible for the child, simplifying explanations of the movements. We have highlighted three important videos from AllPlay Dance website that provide tips and insights to implement accessible communication.

The “Top tips for communication” video give simple tips to ensure children who have challenges with communication, can participate in the dance class, including visual communication and the use of AAC.

https://www.youtube.com/watch?v=JTzWO5yJxSQ&t=22s

The “Using different learning styles to teach ballet technique” video provides examples of different learning styles to engage children with communication challenges.

https://www.youtube.com/watch?v=6TnITXUwCX0

The “Using a dance class visual schedule” about visual schedules to help children understand what you are communicating or even to help reduce anxiety among dancers when they enter the dance space.

https://www.youtube.com/watch?v=j0rY8joR33o

Families also tell us that it is important to provide positive feedback and recognise the dancers’ persistence and dedication towards their goals. To enhance the dancers’ sense of competence, teachers should promote a focus on the process, encouraging enjoyment and self-improvement, and making it clear that there are multiple ways to succeed (Nordin-Bates, 2019).

“Also just, championing them, the same way that you do with all of your kids, and dance schools historically, they like to feature their best talents… And so, I'd really like to see some championing of kids who are up there dancing their way and see that really celebrated. Rather than just like we're including them, celebrate them and champion them as well.” (Parent/Dancer/Music Teacher - Parent Perspective)



Consider sharing and reporting the dancer's progress in a variety of ways, both formal and informal. You could incorporate a short video on the dancer's iPad or communication device to recognise the progress of a movement or position during class (Suppo & Swank, 2019). In Module 8 of the Conversations for Collaboration framework, you will find resources on the importance of the use of positive language, we recommend the use of the "Student Visual Report" to record the dancer's everyday achievements/challenges.


Conversations FOR COLLABORATION Student Visual Report

WINBORN PUBLIC SCHOOL

2020 KINDERGARTEN SEMESTER 2 REPORT

Name Tom Sadler
Class K2
Teacher Mrs Susan Smith

PHOTO OF STUDENT

ENGLISH

Tom has been learning to choose a given letter or word, from a selection of two (which were chosen from a small range). Letters were originally from his name and are now initial letters for the animals being studied as part of our 'jungle' class theme. These same letters form the basis for preliminary handwriting practice. Similarly, words being covered in Term One included his own name, and mum and dad. In term two, the words are visually distinctive animal names including lion, elephant and zebra. Tom is completing activities requiring matching these words to the corresponding pictures. In reading books, Tom is learning concepts of print, including how to point and match words one to one, to track left to right and to turn the page. In communicating, Tom is encouraged to look at the speaker. Tom has vocalised the letter names 'b' and 'c' recently, as well as 'l' for lion on several occasions.

PHOTO OF STUDENT DOING ACTIVITY

EXAMPLE

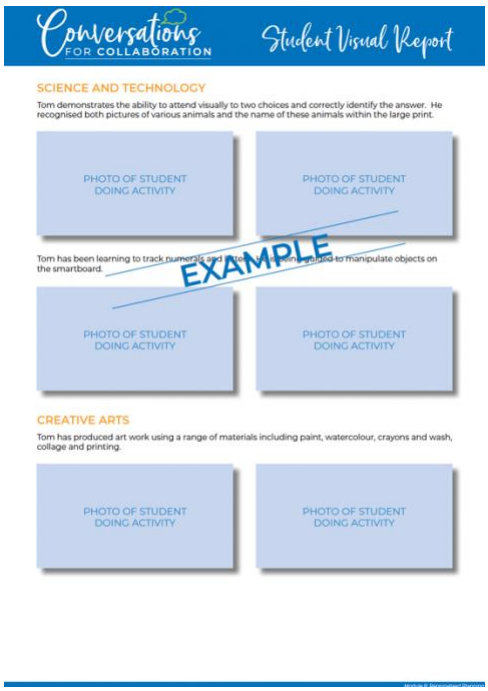
PHOTO OF STUDENT DOING ACTIVITY

MATHEMATICS

When given two choices Tom was able to identify the numbers one, two and three as well as dots representing these numbers. Tom has demonstrated an understanding of simple positional language such as 'in' and 'out' by placing an item in and on a box respectively when asked to do so.

PHOTO OF STUDENT DOING ACTIVITY

PHOTO OF STUDENT DOING ACTIVITY


Conversations FOR COLLABORATION Student Visual Report

SCIENCE AND TECHNOLOGY

Tom demonstrates the ability to attend visually to two choices and correctly identify the answer. He recognised both pictures of various animals and the name of these animals within the large print.

PHOTO OF STUDENT DOING ACTIVITY

PHOTO OF STUDENT DOING ACTIVITY

EXAMPLE

Tom has been learning to track numerals and letters ... to manipulate objects on the smartboard.

PHOTO OF STUDENT DOING ACTIVITY

PHOTO OF STUDENT DOING ACTIVITY

CREATIVE ARTS

Tom has produced art work using a range of materials including paint, watercolour, crayons and wash, collage and printing.

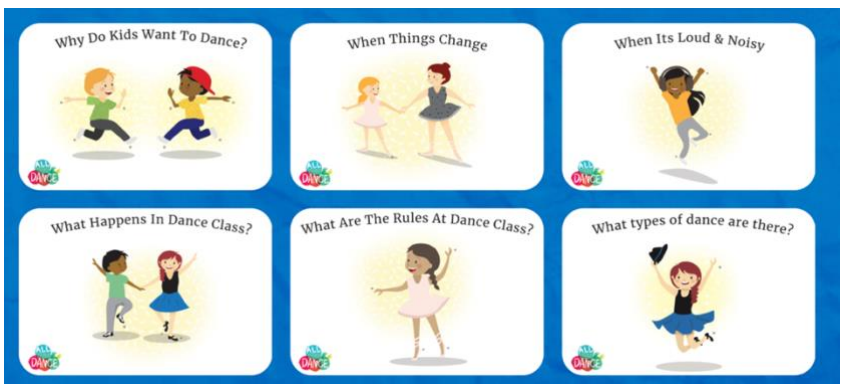
PHOTO OF STUDENT DOING ACTIVITY

PHOTO OF STUDENT DOING ACTIVITY

https://conversationsforcollaboration.com/wp-content/uploads/2021/01/M8-resource2-Example_VisualReport.pdf

Sometimes, communication between dance teachers and dancers includes verbal and non-verbal, and direct or indirect messages (Millard et al., 2021). As an additional resource, we recommend the AllPlay Kids' portal, which offers social stories to support this communication. These resources are great tools to support the dancer to feel safe.

https://allplay.org.au/kids-portal/



Resources Summary

Resources	Links	Core time	Additional time
Conversations for Collaboration Framework – Modules: 1, 2, 4 and 8	https://conversationsforcollaboration.com		45 mins
Conversations for Collaboration framework values and principles	https://conversationsforcollaboration.com/about/		10 mins
F-words Introduction Video	https://vimeo.com/252166407		5 mins
Vision in The Classroom	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M2-resource5-vision-in-classroom.pdf	5 mins	
Vision for Student – Teacher	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M2-resource1-vision-mind-map-teacher.pdf	5 mins	
F-words agreement	https://canchild.ca/system/tenon/assets/attachments/000/003/857/original/F_Words_Agreement_Template_20Dec2021.pdf	5 mins	
InVisible Difference project challenges the perspective on the work of dancers with disabilities.	https://www.youtube.com/watch?v=cESTSULqewY		5 mins
Laura Jones shares insights on how diversity enhances creative possibilities in dance.	https://www.stopgapdance.com/story/diversity-as-a-creative-force/		10 mins
All About Me	https://conversationsforcollaboration.com/wp-content/uploads/2020/07/M1-Younger-student-this-is-me.pdf	15 mins	
Developing the Student Voice	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M4-resource4-developing-student-voice.pdf	5 mins	
Teacher's Self-Feedback Form (F-words Checklist)	https://canchild.ca/system/tenon/assets/attachments/000/003/134/original/DAM_Teacher_F-Words_Self-Feedback_Form___Checklist_(1).pdf	15 mins	
Top tips for communication	https://www.youtube.com/watch?v=JTzWO5yJxSQ&t=22s	1 min	
Using different learning styles to teach ballet technique	https://www.youtube.com/watch?v=6TnITXUwCX0	3 mins	
Using a dance class visual schedule	https://www.youtube.com/watch?v=6TnITXUwCX0	1 min	
Student Visual Report	https://conversationsforcollaboration.com/wp-content/uploads/2021/01/M8-resource2-Example_VisualReport.pdf	5 mins	
AllPlay Kids Portal	https://allplay.org.au/kids-portal/		45 mins
Total Extra Time			**2 hrs**
Total Core Time		**1 hr**	

Nurturing Dance Connections

Chapter Three Overview

Welcome to chapter three of our Co-designed Inclusive Dance Approach Guide! This chapter will dive into the power of strong dance connections. We will explore strategies to nurture relationships within the dance community and understand how these connections can shape inclusivity.

For families it is one thing to say everyone is welcome, but parents want a dance space that will welcome their child and understand and meet their needs. Parents want their child to feel safe, so they can feel safe. This relationship is based on a sense of trust that goes both ways. Research shows that educators who have a positive attitude towards disability and inclusion are key drivers for inclusivity. The connection made between families and educators can strengthen relationships and develop a culture of community (Mantilla et al., 2022). Open and honest communication are very important for families to feel valued and heard. Parents shared impactful experiences with us:



"When my kids started school at the first parent-teacher meeting, I stood up and said, this is us, this is our daughter, this is her diagnosis, this is what it means for her. Does anyone have any questions? And if anyone would like to talk to me at any stage, please do. And so, we started off with a culture in the class where everyone understood what was going on… And I think if we hadn't had that relationship already that would have been harder." (Ballroom Parent)

" I've had teachers in the past, just through kindy and other places where I've said, "oh, (child's name) comes with a little bit of extra stuff, she's got cerebral palsy", and sometimes the response is like, "oh yeah, we've had kids through with a disability before", which I'm fine, but it can almost sometimes feel a bit dismissive to the fact that for you as a parent, it's quite a big thing to be telling someone, because you want to feel just heard and acknowledged." (Parent/Dancer/Music Teacher - Parent Perspective)

This chapter has tools and resources that will support you developing strong connections with the dancer and their families, presented in three sections.

	Chapter Sections	Pages
i	Connecting and Learning with Families	29
ii	Building a Dance Community	32
iii	Connecting with Support Networks	35

Connecting and Learning with Families

Research shows us that a positive partnership between teacher and parent is extremely important for a successful outcome in a student's learning journey (Mann et al., 2023). Parents are the experts on their children and their lived experience should be equally valued. For parents it is important to talk about their kids and share their knowledge with others.



"... to me as a parent anywhere she goes I feel comforted if I feel like there's a level of understanding about who she is and what she brings with her before she gets in the room. And it doesn't matter then if a teacher is not perfect and doesn't know all the things, that's an unrealistic expectation, and it's a learning process for everybody. We're still learning too, as her parents how to cope. But I think that level of understanding and knowing what we could expect from this person, and what we can offer. Having that extra information is really valuable." (Parent/Dancer/Music Teacher - Parent Perspective)

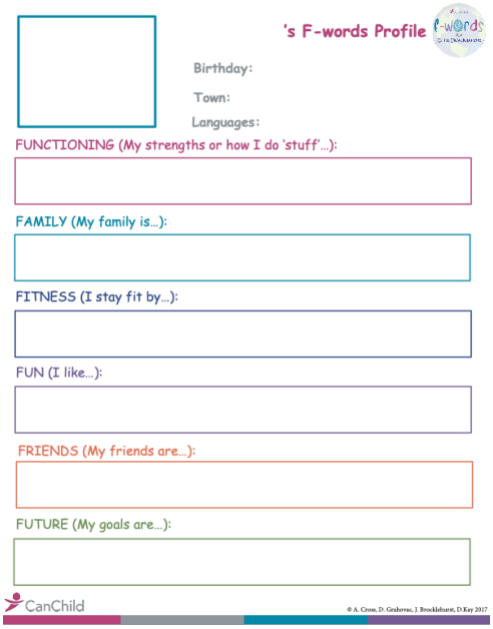
Parents tell us that relationships are built on informal day-to-day interactions, rather than formal meetings. It is important to consider an accessible and welcoming space for parents to socialise when implementing an open-door policy. Warm greetings, casual chats, welcoming body language, regular email updates, and relaxed interactions are key effective strategies that you can find on module 3 of the Conversations for Collaboration framework. This module provides resources and tools to help you build and maintain relationships between the parents, dancers, and teachers.

https://conversationsforcollaboration.com/module-3-relationship/

Among the number of resources that you can explore on module 3 of the framework, we highly recommend the 3-pages commentary by Kathie Snow "Start with Strengths!" to support your understanding of a strength-based approach. For her strength might not be observable or found in traditional assessments, the only way to find out is by talking to the person or the family.

STRENGTH
1) What a Person Does Well
2) What a Person Enjoys Doing
3) What a Person Wants to Do And/or Wants to Learn to Do

We have also selected four easily adaptable tools from the Conversations for Collaboration framework and the F-words framework to help you start a conversation with dancers and parents in your dance practice.


's F-words Profile

Birthday:

Town:

Languages:

FUNCTIONING (My strengths or how I do 'stuff'...):

FAMILY (My family is...):

FITNESS (I stay fit by...):

FUN (I like...):

FRIENDS (My friends are...):

FUTURE (My goals are...):

CanChild

F-words Profile – We have talked about the F-words framework in our previous chapters. This one-page document highlights the most important things for the child and their family. It is an introductory document with a clear strength-based approach, it is about the child's family and friends, what the child likes to do for fitness and fun, and the child's and family's overall hopes and goals for the future (P. Rosenbaum & J. W. Gorter, 2012). The F-words Profile can be adapted to best suit your dance practice, we encourage you to work with your community to find new F-words that are meaningful to them.

https://canchild.ca/system/tenon/assets/attachments/000/004/248/original/FWords_Profile_ENG-ACCESS.pdf

The "My Concerns and Expectations for The Year Ahead" mind map from the Conversations for Collaboration framework is an important tool to support an open and honest communication between dance teachers and families. Consider how the families might communicate their concerns or issues with you.


Conversations FOR COLLABORATION

All About My Child

MY CONCERNS AND EXPECTATIONS FOR THE YEAR AHEAD

FAMILY IMPACTS

STUDENT HEALTH IMPACTS

COMMUNICATION WITH SCHOOL

BARRIERS FOR MY CHILD, SUCH AS...

A SENSE OF BELONGING

OPPORTUNITIES TO...

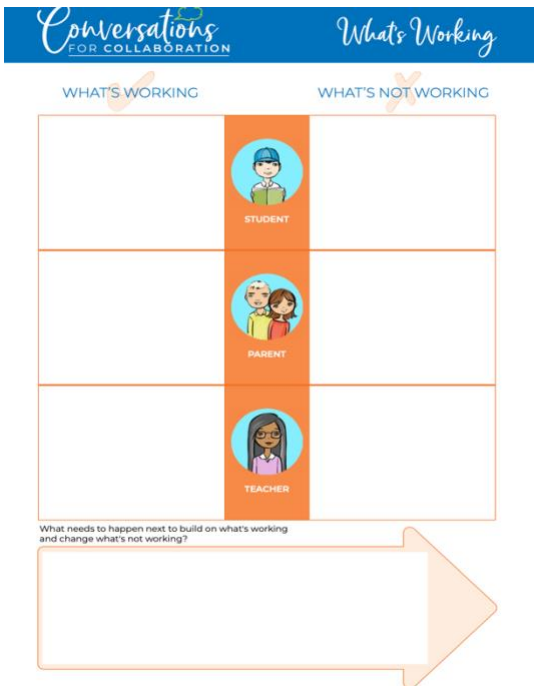
https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource2-the-year-ahead-parent.pdf



The teacher's mind map called "The Year Ahead", also found on module 3 of the Conversations for Collaboration framework, this tool supports you communicating your concerns and worries with parents. Remember to keep an open and honest communication with families, as relationships are reciprocal in all aspects. You might communicate your concerns, and how they could help you to work through any issues.

https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource3-the-year-ahead-teacher.pdf

The relationship between families and dance teachers should be considered a 'safe' space, with open and respectful conversations. Relationships need to be nurtured and celebrated. The "What's Working" tool, will support you to reflect on successes – what we did, what did we learn, how can we apply this in the future. It is important to understand that this reflection is part of the process and needs to be constantly reviewed, it is just as important to consider when deciding the appropriate time to have those conversations.



https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource4-whats-working.pdf

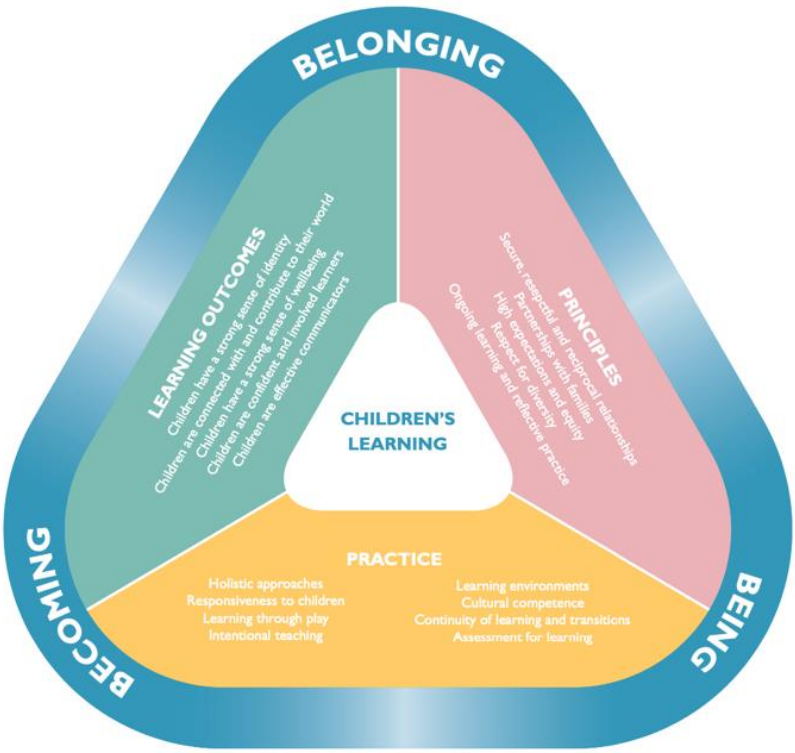
Building a Dance Community

Developing a sense of belonging and connection to peers is an important facilitator for participation in community-based activities for children with Cerebral Palsy (CP) (Sivaratnam et al., 2020). Children in inclusive settings can build relationships with peers and develop a sense of community (Mantilla et al., 2022). Parents want their children to be alongside like-minded peers to learn and problem-solve with together.



"… when his friends see that he is able to chat independently using the device. He was able to develop a friendship, not relying on us interpreting." (Support Worker supporting a 7-year-old dancer with CP)

The Early Years Learning Framework (EYLF) was developed to assist educators to provide young children with opportunities to maximise their learning experiences, but it is also great tool to support the strengthening of connections between children in your dance practice. It provides an understanding of child development through their connection with families, community and culture by belonging, being and becoming (Department of Education & Relations, 2009; Mantilla et al., 2022).



Elements of the Early Years Learning Framework (EYLF, 2009, p. 10)

The following video presents an overview of the EYLF. It highlights how belonging, being and becoming shape children's experiences by fostering their relationships and connections with families, educators, and the broader community. This allows children to be themselves and to engage in experiences that are meaningful and enjoyable to them; supporting them as they learn and grow.

https://www.youtube.com/watch?v=M2p7KLhAqsA

For dance teachers there is value in building a community by promoting social activities between the students, teachers, and parents, or providing opportunities for the dancers to support each other.

"I can just see the value of coming together as a community when a performance is on, and it can be more than just dance it could be hosting the barbecue at the same time, or it's an opportunity for people that might not come together, to come together in that environment. In a school setting that can be so valuable." (School Dance Teacher)



To get to know the dancer in front of you and support them building and maintaining relationships with others, you need to see the child through the lenses of being. The following tools are easy to adapt to any dance practice, so you can support the dancer to develop their identity and to promote an equal relationship between dancers and their peers by focusing on the dancers' strengths.

Strategies for supporting positive peer relationships

Create a sense of team by:
- adopting a group name
- identifying and celebrating the strengths within the group and in individuals
- identifying shared goals and expectations
- spending time building trust and rapport.

Instigate buddy programs to enable:
- young people to pair up to give each other support and feel connected to others
- new participants in the group and those who feel isolated to have access to special support.

Promote partner or small group work to:
- create opportunities for children and young people to find support from their peers
- assist those who are more isolated or withdrawn to grow their confidence.

Monitor group dynamics, and be sure to:
- call out bullying or exclusion
- discourage unacceptable behaviour
- encourage positive team dynamics.

Celebrate successes to strengthen a sense of team and individual value. Ask team members to:
- share something about their peers that they admire
- thank their peers for something that they have done together.

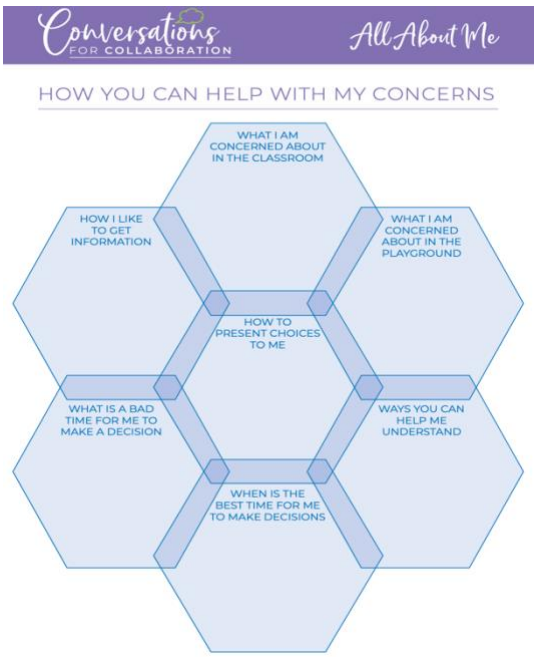
(Empowerment and participation: A guide for organisations working with children and young people, 2021, p.21)

The "Empowerment and participation: A guide for organisations working with children and young people" was designed to assist organisations with tools and advice to empower children and young people. The guide has an extensive number of resources that we encourage you to review in your own time, but for this chapter we want to highlight the strategies to support positive peer relationships.

The "All About Me" profile template developed by Kindred is another tool that can be used along with the F-words Profile to create a strength-based profile for the dancers in your dance class.

https://kindred.org.au/wp-content/uploads/2023/05/All-About-Me-Template.pdf



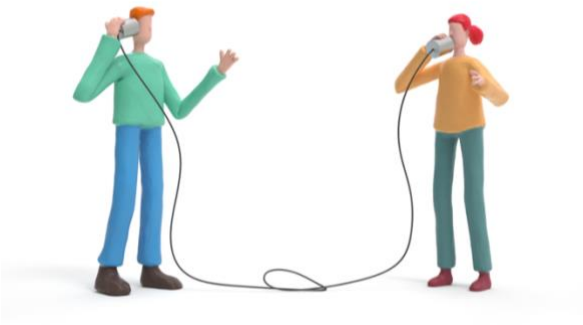


The "How You Can Help with My Concerns" mind map provided in Module 3 of the Conversations for Collaboration framework can help you to understand what is important to the student in front of you.

https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource1-student-how-can-you-help.pdf

Connecting with Support Networks

The engagement of support staff in education settings is highly valued by families. There is a need to have a communication channel between parents, teachers and the health professionals involved in the child's care (Mantilla et al., 2022; Sivaratnam et al., 2020). The same can be transferred to dance studios and community dance practices.



"I think, is really important to be having conversations with their network. So, parents or carers […] conversations with physiotherapists, occupational therapists, people who have a bit more knowledge around physical disabilities and what those participants are able to achieve. I don't know whether an email relationship is even enough to sort of be following up on (Parent/Dancer/Music Teacher - Teacher Perspective)

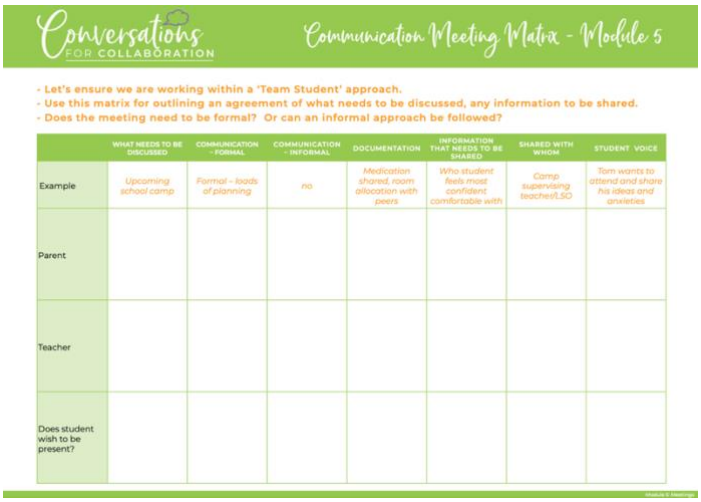
There is a need for communication channels between dance teachers and clinicians, where clinicians can share the child's strengths, tips for inclusion, and seek feedback on specific skills to be developed in therapy sessions (Sivaratnam et al., 2020). However, for parents dance should remain the priority, if a therapist is attending a dance class, they should be there *"to facilitate the teacher's ideas, not to turn them into a therapy session" (Ballroom Parent).* Dance is a fun environment in the community for children, and families don't want their children to feel like everything is therapy. The National Guideline for Best Practice in Early Childhood Intervention recommends that children, regardless of their needs, should participate fully in their community life, and therapists should build the capacity of the child, family and community professionals through collaborative teamwork (Early Childhood Intervention Australia, 2016). Not everything needs to be therapy. To promote inclusion through community participation, children should engage in their natural environment, this is the best way to support the child's learning and development (Dunst, 2020).

"We've had some awesome therapists over the years. And they do a lot of things like school visits, or they've come to other activities. It really is about providing information for the teachers so that the kids can participate if they want to." (Ballroom Parent)

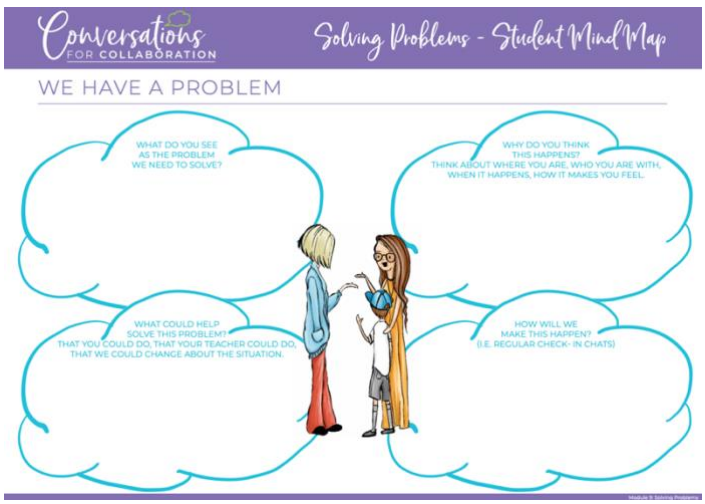


We have selected the tools below for you to adapt to your dance practice and use with the dancer's network to guide meetings and problem solve issues or concerns that may be happening during dance classes.

The "Communication Meeting Matrix" from Module 5 in the "Conversation for Collaboration Framework" is a practical tool to use when meeting with health professionals and the child's network, you can adapt this tool by adding an extra box to include the child's support team.



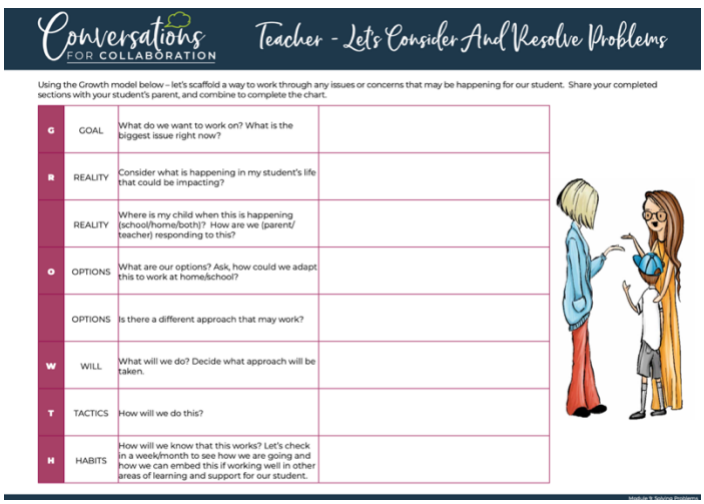
https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M5-resource2-communication-meeting-matrix.pdf



The "We Have a Problem" mind map from Module 9 of the "Conversation for Collaboration Framework" is an effective communication tool to use with the dancer and their network, to work through problem solving. You can encourage the child's network to use this tool with them to reflect issues and concerns in the dance class, explore possible solutions and actions that can be taken as a team and work in collaboration to achieve a solution.

https://conversationsforcollaboration.com/wp-content/uploads/2021/03/M9-resource1-solving-problems-student.pdf

The "Let's Consider and Resolve Problems" mind map from Module 9 of the "Conversation for Collaboration Framework" uses the "GROWTH model" for problem solving. This is a good tool to scaffold problem solving that you can use with the dancers' network to work together. This tool explores: Goal, Reality, Options, Will, Tactics and Habit.



https://conversationsforcollaboration.com/wp-content/uploads/2021/03/M9-resource3-solving-problems-teacher.pdf

Resources Summary

Resources	Links	Core time	Additional time
Conversations for Collaboration Framework – Modules: 3, 5 and 9	https://conversationsforcollaboration.com		30 mins
Start with Strengths – Commentary	https://www.family-advocacy.com/assets/Uploads/Downloadables/acbfa05fb6/11284-Start-with-Strengths.-Kathie-Snow.pdf	10 mins	
F-words Profile	https://canchild.ca/system/tenon/assets/attachments/000/004/248/original/FWords_Profile_ENG-ACCESS.pdf	5 mins	
My Concerns and Expectations for The Year Ahead	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource2-the-year-ahead-parent.pdf	5 mins	
The Year Ahead	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource3-the-year-ahead-teacher.pdf	5 mins	
What's Working	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource4-whats-working.pdf	5 mins	
The Early Years Learning Framework (EYLF)	https://www.acecqa.gov.au/sites/default/files/2023-01/EYLF-2022-V2.0.pdf		30 mins
YouTube video – EYLF Overview	https://www.youtube.com/watch?v=M2p7KLhAqsA	5 mins	
Empowerment and participation guide	https://ocg.nsw.gov.au/sites/default/files/2021-12/g_CSS_EmpowermentandParticipation.pdf		45 mins
All About Me Profile	https://kindred.org.au/wp-content/uploads/2023/05/All-About-Me-Template.pdf	5 mins	
How You Can Help with My Concerns	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M3-resource1-student-how-can-you-help.pdf	5 mins	
National Guideline for Best Practice in Early Childhood Intervention	https://www.eciavic.org.au/documents/item/1419		15 mins
Communication Meeting Matrix	https://conversationsforcollaboration.com/wp-content/uploads/2020/08/M5-resource2-communication-meeting-matrix.pdf	5 mins	
We Have a Problem	https://conversationsforcollaboration.com/wp-content/uploads/2021/03/M9-resource1-solving-problems-student.pdf	5 mins	
Let's Consider and Resolve Problems	https://conversationsforcollaboration.com/wp-content/uploads/2021/03/M9-resource3-solving-problems-teacher.pdf	5 mins	
Total Extra Time			**2 hrs**
Total Core Time		**1 hr**	

The Dance of Flexibility

Chapter Four Overview

Welcome to chapter four of our Co-designed Inclusive Dance Approach Guide! Now that we have developed our knowledge on inclusive dance practices, worked on strategies to implement a collaborative approach, and built on relationships and strong dance connections, we will explore ideas to be flexible and cater to the unique needs of each dancer.

Catering to each dancer's ability is something that dance teachers have always done, as each body is different. However, for dance teachers it can be hard to work with flexible approaches, and let go of the "expected" movement to encourage self-expression (Urmston & Aujla, 2019). Dance teachers should support the dancer to access the primary concept of the movement, rather than matching/mirroring it (Morris et al., 2015).



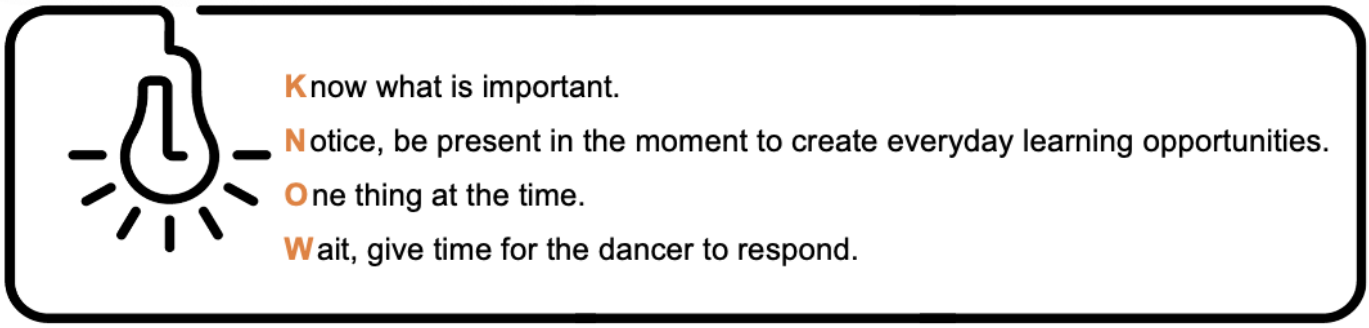
"So, rather than trying to implement a set syllabus like, if you were in ballet a R.A.D (Royal Academy of Dance), or a particular style where you're bound to sort of only think within certain steps and certain sequences and choreography. It's a creative approach, participants centred, and engaging where they are at, person centred." (Community Dance Teacher)

In order to foster inclusion in the dance space, dance teachers need to understand different ways to perform a movement (Urmston & Aujla, 2019). This chapter will provide strategies to implement a creative approach, while working on the technical development and fostering a sense of achievement in three sections:

	Chapter Sections	Pages
i	Being Open to Modifications	38
ii	Embracing Fun and Creativity	42
iii	Working Towards the Right Challenge	44

Being Open to Modifications

Dance professionals tell us that part of being open to modification is to respond to the moment. By allowing the student to create and find their own way to perform the dance movement, dance teachers can promote creativity and learning. On the paper “Special Needs and Dance: An Insider’s Perspectives”, Nelson (2015) uses the “KNOW” acronym, from the EASE program in New York City, to respond to the moment and support her inclusive dance classes.

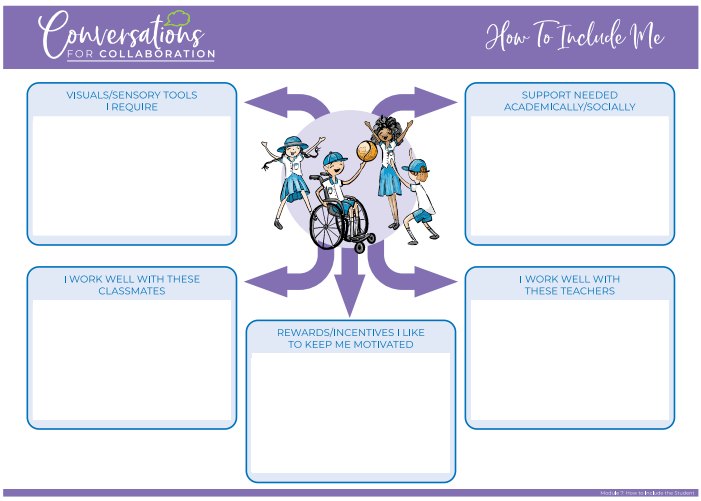


Another way to engage dancers in the class is to focus on what they can do! Dance teachers need to be present in the moment and flexible to find another way to perform the movement, focusing on what the dancer can do. The teachers can bring their lesson plans and teaching methods to the class, but the curriculum needs to be negotiated with the dancers. The CO-OP Approach in occupational therapy, is a client-centred learning method that can support dancers’ problem-solving to find different ways to perform the task based on what they can do (Ohrvall et al., 2020).

CO-OP Strategies in Dance	
Use Reflective Questions	Engage dancers in problem-solving, ask about their feelings and experiences during practice and performances.
Goal setting and Planning	Guide dancers to set goals, plan their steps or movements, execute them, and reflect on their performance.
Provide Autonomy	Offer choices in choreography or different ways to perform the movement. Allow dancers to find their own solutions to movement challenges.
Teaching Methods	Tailor instructions to cater to different learning styles. Use various teaching tools and methods to accommodate diverse needs

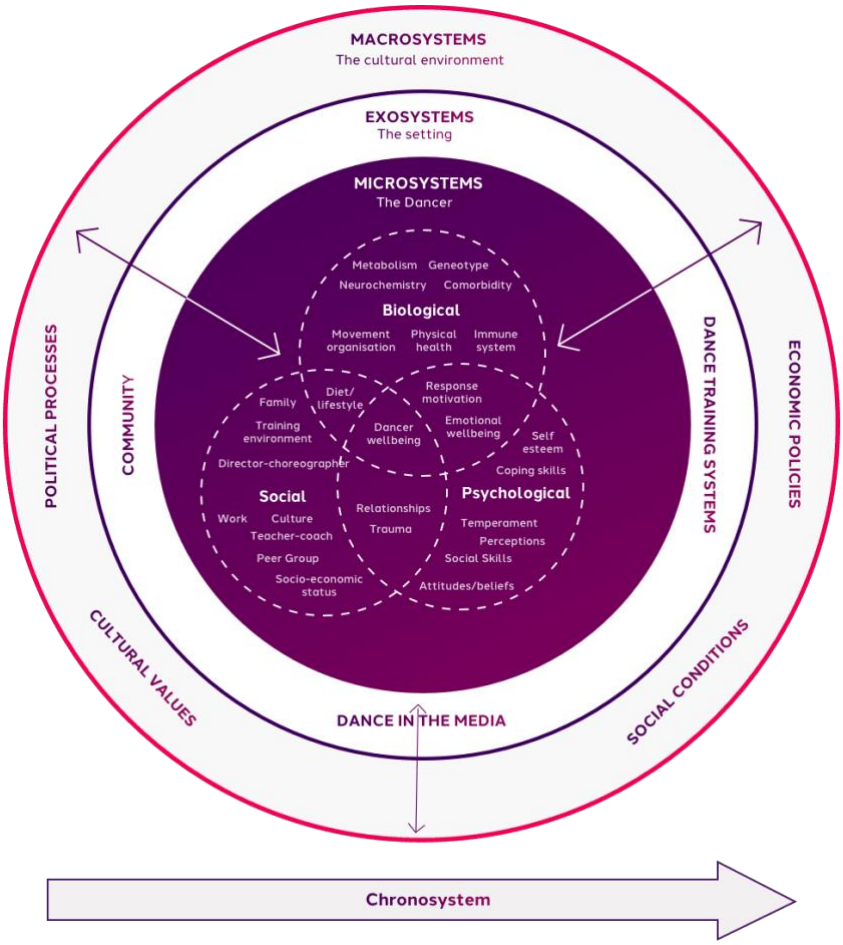
Throughout this guide we have provided tools that support collaboration and problem-solving to overcome movement challenges. Please review chapters two and three to find ways to collaborate with the dancer.

A great tool from Module 7 of the Conversations for Collaboration framework is the “How to include me” mind map. This tool can support you understanding the needs, preferences, and ways the dancer feels included in the dance class.



https://conversationsforcollaboration.com/wp-content/uploads/2020/12/M7-Resource6-how-to-include-me.pdf

As an additional resource we recommend you review the teaching approach from Shift Dance. This teaching dance technique was developed to support adults with additional learning. The approach focuses on how our bodies, minds, and feelings all work together in learning.



Biopsychosocial ecology of dancer development adapted from Engel (1980) and Bronfenbrenner’s (1979) frameworks.

https://shiftdance.eu/teachingapproach/

The biopsychosocial ecological perspective adopted by Shift Dance's approach, acknowledges that body, thoughts, and social lives affect the dancer's wellbeing and how they learn. This aligns with what dance teachers have told us.



"You have a toolkit, that is almost like wrapped around your belt, metaphorically that you just draw from like you know that you can open up and you're constantly sort of that relationship approach, you're reading the room, and you're ready to go with where suggestions may lead you, constantly being informed by your safe practice and your safe movement…" (Community Dance Teacher)

Dance teachers sometimes can move too quickly through the dance activities, which can impact on the dancer's engagement in the class. Some dancers might take a bit longer to process and solidify the connection to the movement (Morris et al., 2015). The layering approach supports dance teachers to ensure dancers understand each step well before moving on to the next. It involves beginning with basic moves or ideas, then gradually building sequences while introducing complexities in stages, and eventually transferring responsibility to the dancers (Henley & Conrad, 2021).

Key Points of Layering in Dance Teaching	
Start with Basics	Begin with the basic moves or ideas, exploring notion of space and time.
Link Sections Gradually	Connect basic movements to gradually to make a sequence over time.
Incremental Complexity	Add complexity, introduce new elements such as direction and speed variations.
Transfer Responsibility	Gradually hand over control to the dancers. Have them remember the sequence with fewer or no prompts, encouraging autonomy.

On the AllPlay Dance video series, Dr. Olivia Millard and Dr. Shaun McLeod provide simple tips to ensure children with disabilities can engage in the dance class.

The video "Top Tips for Physical Disabilities" from AllPlay Dance explores ways for dance teachers to engage children who might use mobility aids in the dance class.

https://www.youtube.com/watch?v=-ePZZRriTG0

Whether it is a specific dance style or creative approach, the possibilities to find different ways to perform a movement are endless ("How can we increase dance for students with disabilities?," 2017). It's important to consider key aspects of safe dance practice when exploring new movements, in Australia, the Australian Guidelines for Teaching Dance (AGTD) set minimum standards for dance teaching. You can access the guideline on the Australian Dance Council (Ausdance) website.

https://ausdance.org.au/publications/details/australian-guidelines-for-dance-teachers

Remember to always work in collaboration with the dancer to explore different moves and support them to engage in the class (Nelson, 2015). Please review chapters two and three to find ways to collaborate with the dancer and improve communication between the dancer, the family, and the dance teacher.



"Knowing the student is very important, knowing the parent is very important, and then making sure that you know how to offer different scenarios for whoever you've got in front of you, and feeling confident, gaining the confidence to do that."
(School Dance Teacher)

Embracing Fun and Creativity

Families tell us that fun is their number one priority when taking their children to dance classes. Ensuring that the dance class is fun will support your relationship with the children and foster creativity in the dance environment.



"*I was going to add to that fun, definitely, love it! Because that's what it's about. That's why it's a way of communicating, it's a way of expressing ourselves. It should be fun, and it should be available! So, yes fun!" (Parent/Dancer/Music Teacher - Teacher Perspective)*

"I just like to have fun. I'm down to it." (Dancer with CP)

It is important to have space for less structured exercises and address the play and joyful aspects of dance while still exploring movement skills (Morris et al., 2015). In their "You Want to Get Us Involved More: Authorizing Student Voice in a Dance Setting" paper, Shilcutt et al. (2021) describe how game-like dance activities can foster creativity and gives a sense of ownership to dancers. Creativity is an important component in dance to foster sense of achievement, it is often associated with well-being and success (Nordin-Bates, 2019).

"… regardless of what the class is, prep to grade 12, community, and beyond. Every dance class starts with a warmup. So, why not start your class, even if it's a ballet, or a tap, or jazz, or something in the Australian curriculum, or something with more of a creative approach, to a warm up like, them all moving around in the space, like creative games and tasks, and even share movement, where you are in a circle, and each person creates movement passes on to the next. So, an improvisational approach to do a nice, beautiful warm up that breaks down any barriers, and invites them to get their body ready to go, based on their own, how they're feeling, and a bit of fun and creativity." (Community Dance Teacher)



To enhance access to movement, creative activities can be used with techniques such as: tactile modelling, physical guidance, oral description and peer partnering (Seham & Yeo, 2015). Sense arts has a series of 12 short videos (between 40-secs and 3-mins) provided by Sense with step-by-step instructions and ideas for dance activities that can be utilised to foster the dancer's creativity.

https://youtube.com/playlist?list=PL3cz6p9Us2bNknsU2mAN_3wVN3h987kDA&si=aNw2qoUUrq5EeIS9

For Millard et al. (2021), improvisation is a way to explore movement and rhythm, however, they also acknowledge that structure and routine can support thinking and behaviour. Therefore, in their paper "AllPlay Dance: Two Pilot Dance Projects for Children with Disability, Developed and Assessed With a Dance Studies Approach", Millard and collaborators incorporate score work and the principles of Laban as a structure for dance teaching.

Fun and Creative Structured Dance Class	
Consistency	Consistent sections with a timetable for tracking progress.
Warm-Up	Simple movements and improvisation to prepare bodies for upcoming techniques.
Set Material	Set rhythm to execute movements, starting basic and gradually involving more of the body.
Improvisation	Explored different energies in dance, incorporating body parts, speed, and direction while dancing together.
Learning Material	Short phrases taught with flexibility for execution and time to adjust or create variations.
Making Material	Groups develop their own movements through tasks, creating new sequences and revising previous work.
Showing/Watching	Weekly sharing sessions where groups presented their work while others observed, adding complexity and decision-making for the final performance.

There are many tools recommended in chapters two and three that can support you to ensure dancers are having fun. For example, the Teacher's Self-Feedback Form, developed by The Dance Ability Movement (DAM) based on the F-words in chapter two, provides ideas such as themed classes, fun games and songs that are enjoyed by dancers. Above all we highlight the importance to understand the signals and signs given by the child and keep an open communication with the dancer and their family.

Working Towards the Right Challenge

The benefits of dance across physical outcomes are widely known, as dance has been found to improve motor skills across various populations (Cameron et al., 2021; Duarte Machado et al., 2023). However, families tell us that it is equally important to consider several other benefits of participating in a dance class.

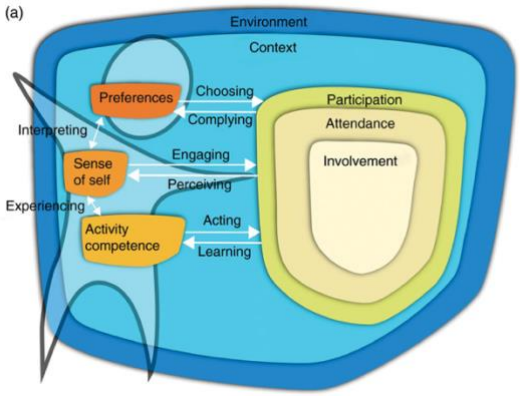


"I think if she wanted to go, if she's passionate about something, and she wants to do it. Then I think if she has the right teacher and the right understanding, she can achieve anything that she wants to, and there's more spaces in the world now for people who are different, and I think she'll find one so in terms of that, that aspect of it, I think she can achieve a lot." (Parent/Dancer/Music Teacher - Parent Perspective)

When working towards the right challenge, it is important to set realistic goals and understand that talent in dance involves physical, artistic and psychological factors, including creative ability, motivation, and self-confidence (Urmston & Aujla, 2019). The improvement in self-value and confidence enables dancers to build on their dance skills, as you don't need to have each skill to be talented (Seham & Yeo, 2015; Urmston & Aujla, 2019).

"I think it's still very important in terms of participation to have individually determined goals. Now, might have to be a collaboration again. The physical goals, of course, are important and specific to a person's needs that they are realistic, that they are field-based and that they are participation-based as well." (Dance Movement Therapist)

To support your understanding of participation-based outcomes and related concepts like, activity competence, self-concept, self-efficacy, and social participation, we recommend the work by Imms et al. (2017). The Family of Participation-Related Constructs (fPRC) framework considers that preferences for activities are strongly related to how much the child feels involved in those activities. As the child develops physical and social competencies, the positive experiences are enhanced, increasing the likelihood that the child will further engage in the activity (Imms et al., 2017).



Family of Participation-Related Constructs: (a) person-focused processes (Imms et al., 2017)

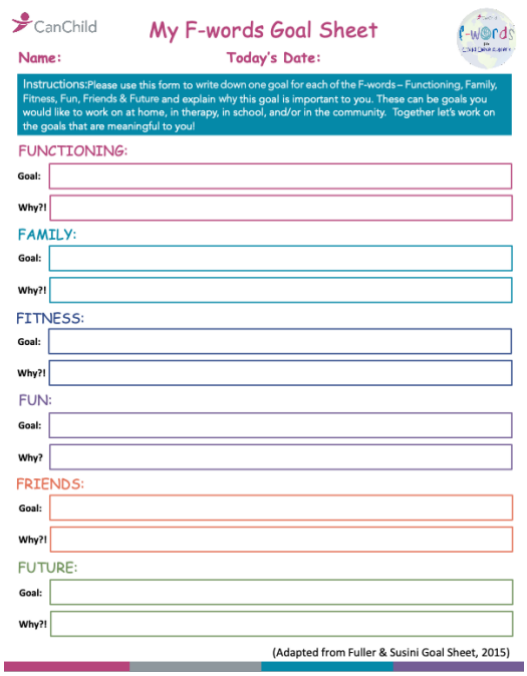
It is also important to include the dancer on their development journey. Collaborating with the young dancer to problem solve and incorporating their feedback on the dance class goals and objectives, because they always come up with great ideas (Nelson, 2015).



"…fostering sense of progress, just getting feedback from the child, so the child is included in that loop of how they think they're going and that just through necessity, include child being engaged in that processing and also how the child sees what they're doing and any changes they're making in terms of their own self-esteem." (Dance Movement Therapist)

One of the frameworks that we have encouraged you to use in our previous chapters is the F-words framework. The F-words Goal Sheet and the F-Words Life Wheel will help you to set goals that are meaningful to each dancer and facilitate conversation for dancers and their families and the dance educator. Both tools can be easily adapted to best suit your dance practice.

https://canchild.ca/system/tenon/assets/attachments/000/004/247/original/FWords_Goal_Sheet_ENG-ACCESS.pdf


CanChild

My F-words Goal Sheet

Name: Today's Date:

Instructions: Please use this form to write down one goal for each of the F-words – Functioning, Family, Fitness, Fun, Friends & Future and explain why this goal is important to you. These can be goals you would like to work on at home, in therapy, in school, and/or in the community. Together let's work on the goals that are meaningful to you!

FUNCTIONING:
Goal:
Why?!

FAMILY:
Goal:
Why?!

FITNESS:
Goal:
Why?!

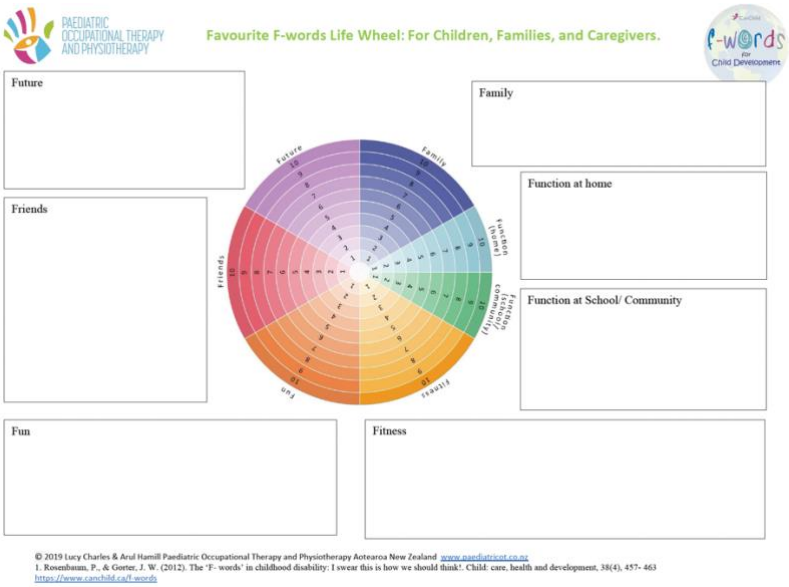
FUN:
Goal:
Why?

FRIENDS:
Goal:
Why?!

FUTURE:
Goal:
Why?!

(Adapted from Fuller & Susini Goal Sheet, 2015)

My F-words Goal Sheet (P. Rosenbaum & J. Gorter, 2012)



F-Words Life Wheel (P. Rosenbaum & J. Gorter, 2012)

https://canchild.ca/system/tenon/assets/attachments/000/004/283/original/Favourite_F-words_Life_Wheel_for_Families_and_Children_2023.pdf

This is the last chapter for our inclusive dance journey. We hope the tools and strategies suggested in these four chapters can support you in your dance practice when including children with Cerebral Palsy and their families. Remember for families, it is equally important to accept and celebrate the efforts and persistence towards goals as to have realistic and high expectations leaving plenty of room for different kinds of success. Dancers will always surprise you with what they can do if you give them the opportunity to express themselves. Success looks different for each dancer (Nelson, 2015).

Resources Summary

Resources	Links	Core time	Additional time
Conversations for Collaboration Framework – Module: 7			10 mins
How to include me	https://conversationsforcollaboration.com/wp-content/uploads/2020/12/M7-Resource6-how-to-include-me.pdf	5 mins	
Shift Dance Teaching Approach	https://shiftdance.eu/teachingapproach/		15 mins
AllPlay Dance – "Top Tips for Physical Disabilities"	https://www.youtube.com/watch?v=-ePZZRriTG0	5 mins	
Australian Guidelines for Teaching Dance (AGTD)	https://ausdance.org.au/publications/details/australian-guidelines-for-dance-teachershttps://sites.google.com/view/adapteddances/how-to-adapt-dances?authuser=0		20 mins
Making Sense of Dance	https://youtube.com/playlist?list=PL3cz6p9Us2bNknsU2mAN_3wVN3h987kDA&si=aNw2qoUUrg5EeIS9	20 mins	
AllPlay Dance: Two Pilot Dance Projects for Children with Disability, Developed and Assessed with a Dance Studies Approach	https://www.frontiersin.org/articles/10.3389/fpsyg.2021.567055/full#:~:text=and%20Workshop%20Structures-,The%20AllPlay%20Dance%20projects%20were%20developed%20as%20a%20series%20of,create%20a%20dance%20for%20performance.		30 mins
Family of Participation-Related Constructs (fPRC) framework	https://onlinelibrary.wiley.com/doi/epdf/10.1111/dmcn.13237		15 mins
F-words Goal Sheet	https://canchild.ca/system/tenon/assets/attachments/000/004/247/original/FWords_Goal_Sheet_ENG-ACCESS.pdf	5 mins	
F-Words Life Wheel	https://canchild.ca/system/tenon/assets/attachments/000/004/283/original/Favourite_F-words_Life_Wheel_for_Families_and_Children_2023.pdf	5 mins	
Total Extra Time			**1.5 hrs**
Total Core Time		**40 mins**	

Acknowledgements

We would like to express our sincere gratitude to the children and families who participated in this study and shared their invaluable experiences, perspectives, and stories. Your insights and voices have been central to the development of this guide. We extend our thanks to the Consumer Advisory Panel (CAP) for their guidance, dedication, and support throughout this project. Our appreciation also goes to the dance teachers, therapists, and community organizations that contributed their expertise and enriched the co-design process. This guide is the result of collective effort and commitment to fostering inclusivity in community dance spaces for children with cerebral palsy.

Authorship

This guide was authored by Eduardo Duarte Machado, Laura Miller, Michael H. Cole, Peter H. Wilson, supported by collaborative contributions from Joanne Cros, Joanna Nichola, Rhyannon Orr, Judith Adcock, Hannah Fairburn, Martha Godber, and Paige Calver. Special thanks to the Development and Disability over the Lifespan Healthy Brain and Mind Research Centre, and the Faculty of Health Sciences at the Australian Catholic University for their continuous support and contributions to this work.

Ethics Approval

The following ethical approvals were obtained to conduct the research described in this guide:

- Australian Catholic University's Human Research Ethics Committee (HREC) Ethics Register Number: 2021-302H

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