

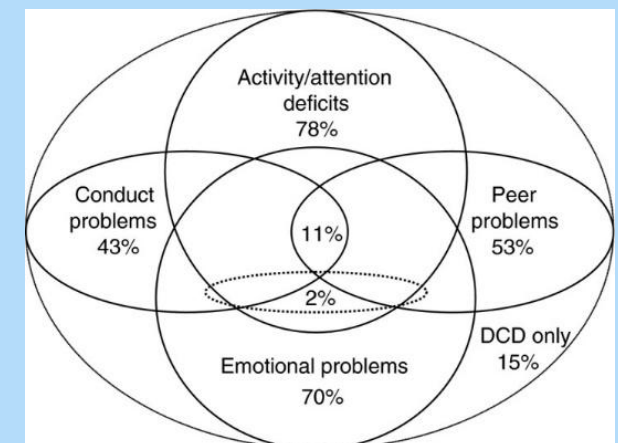
Introduction: The Additional learning need that is going to be explored will be Dyspraxia or otherwise known as Developmental Co-ordination Disorder.(DCD hereafter) According to National Health Service (NHS) (2023) DCD is a “*condition affecting physical co-ordination. It causes a child to perform less well than expected in daily activities for their age and appear to move clumsily.*” DCD is a neurodevelopmental condition that affects movement, coordination, and motor skills. It can impact activities such as handwriting, balance, and spatial awareness, often persisting into adulthood (Blank *et al*, 2019a). DCD is thought to affect 10% of children in the UK (Hazell 2024) with research from North Wales Regional Innovation Coordination Hub(2023) suggesting that 5% of school aged children are affected in Wales, this data is from research conducted in North Wales and may not be a true reflection of the whole of Wales. Literature comparison completed by Wilson *et al* (2013) found that while the exact cause remains unclear, research suggests DCD involves differences in brain development and functioning rather than muscle weakness. Early diagnosis and interventions can help individuals manage symptoms and improve motor skills (Leonard *et al* 2014).

How DCD is diagnosed with Challenges and benefits: DCD can often be overlooked in the early years when parents have a lesser understanding of the early stages of development and may view the signs and symptoms as clumsiness. One of the primary barriers to diagnosis is the general lack of awareness among parents, practitioners, and even healthcare professionals. Unlike other neurodevelopmental disorders such as autism spectrum disorder or attention-deficit/hyperactivity disorder, DCD is less well-known, leading to under-recognition of symptoms (Barnett and Hill 2019). Many parents and practitioners may perceive a child's motor difficulties as laziness or a phase they will outgrow, rather than an actual need requiring assessment and support (Smits-Engelsman *et al* 2012). Additionally, DCD often does not receive the same level of research or funding as other developmental disorders, further contributing to its underdiagnosis (Gentle *et al* 2024). Further research may change the recognised previously mentioned percentages of children affected by DCD. DCD frequently coexists with other neurodevelopmental disorders, such as ADHD, dyslexia, and autism, making diagnosis more challenging (Aspiedent ND). As a result, healthcare professionals may mistakenly attribute motor difficulties to other conditions, overlooking the need for a separate DCD diagnosis (Lingam *et al*, 2012). This overlap can lead to misdiagnosis or delays in getting the right intervention. Getting a diagnosis for DCD often requires assessment , however, in many areas, there is a shortage of professionals trained to diagnose and manage DCD, leading to long waiting lists for assessments (Lee and Zwicker 2021). Some healthcare providers may not be familiar with the specific motor assessments used to diagnose DCD, such as the Movement Assessment Battery for Children (MABC-2), NHS Wales (ND) explains the assessment process and scoring which guide professionals to make informed decisions. Receiving a diagnosis of DCD can provide access to targeted interventions, such as occupational therapy, improving motor skills and daily functioning. It also enhances self-understanding, reducing frustration and boosting confidence (Blank *et al*, 2019b). Early diagnosis supports academic accommodations, social inclusion, and mental well-being, (Zwicker *et al*, 2012).

Exploring Developmental co-ordination disorder.

Barriers: A child diagnosed with DCD in school may face two significant barriers, handwriting difficulties and social participation are both likely, they can impact academic success and emotional well-being. Handwriting issues are often common among children with DCD, with a review indicating that approximately 84% experience such difficulties (Dionne et al 2022). These challenges can lead to problems with letter formation, spacing, and overall legibility on written work. Furthermore, Brina *et al* (2021) found that children with DCD often exhibit slower writing speeds, which can hinder their ability to complete work in a timely manner, it should however be noted that this research was completed on less than 100 children and there is potential for variation in these results. Bartov *et al* (2024) also highlighted that these children may exert inconsistent grip forces and surface pressures during writing tasks, contributing to their handwriting difficulties. Beyond academic struggles, children with DCD often encounter difficulties in social participation, which can adversely affect their emotional well-being and peer relationships. Through observations and verbal research with families and schools Izadi – Najafabadi *et al* (2019) found that motor coordination difficulties can make engaging in physical activities and playground games challenging, leading to reduced participation in social and recreational activities compared to their peers. This limited participation may result in social isolation and hinder the development of essential social skills. Furthermore, children with DCD may experience difficulties in communication and education-related activities and those outside of the classroom, placing them at a higher risk for social participation challenges (Sylvestre *et al* 2013).

Strategy: Occupational therapy (OT hereafter) is a widely recommended strategy for helping children with (DCD) develop essential motor skills and improve daily functioning, being able to access OT would normally come after an assessment and referral (Missiuna and Pollock ND). OT interventions for DCD will normally focus on enhancing fine and gross motor coordination, handwriting, and self-care tasks such as balance and tying shoe laces, allowing children to become more independent and confident in school and social settings though interestingly the research Wilson *et al*, (2020) carried out was on children believed to have DCD having not yet received formal DCD diagnosis. Occupational Therapy can improve social participation by enabling children to engage more effectively in peer activities and physical play, reducing feelings of exclusion, Li *et al*, (2021) found that there was a much improvement in the wellbeing of children aged 7-11 commenting that early years children with DCD had less impacted wellbeing. However, challenges exist, including limited access to therapy services due to high costs and long wait lists, as well as difficulties in transferring learned skills to real-world settings without continuous reinforcement and practitioner and parental training (Bourke *et al* 2023). Additionally, some children may struggle with motivation if therapy tasks feel repetitive, frustrating or they are missing out on opportunities that their peers are engaging in (Schoemaker *et al*, 2023).



Conclusion: The process of obtaining a diagnosis for (DCD) is fraught with challenges, from a lack of awareness and professional expertise to difficulties distinguishing it from other conditions. DCD is a prevalent yet often under-recognised neurodevelopmental condition that significantly impacts children's academic, social, and emotional development. Early diagnosis is crucial but remains challenging due to low awareness and limited access to trained professionals. Before, during and after diagnosis children with DCD may face considerable barriers, particularly with handwriting and social participation, both of which can influence self-esteem and educational engagement. Occupational therapy has been proven as an effective intervention to improve motor coordination and functional independence, but its success can be limited by issues such as access, consistency, and engagement. Raising awareness among educators, healthcare providers, and families, alongside improved support systems and timely interventions, is essential to ensure children with DCD are not only identified early but also empowered to thrive in their learning environments.

Blank *et al* (2019b)