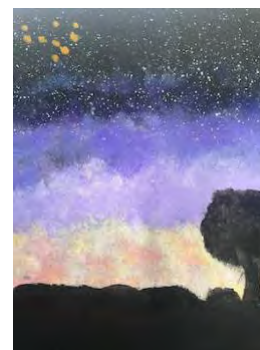


The beauty of universal design for learning (UDL) and why everyone in early childhood education and intervention should be using it

Thecla K. Moffat



ABSTRACT

This article seeks to highlight the importance of consciously implementing universal design for learning principles in practice in early childhood intervention. Universal design for learning (UDL) is based on three principles: 1) providing multiple means of engagement, 2) providing multiple means of representation, and 3) providing multiple means of action and expression. The term UDL is being championed in New Zealand schools but there are few examples of how early childhood settings and early childhood kaiako can utilise it. Highlighting the three UDL principles and how they link with *Te Whāriki*, the early childhood curriculum, is important when supporting kaiako and early interventionists to reflect on their practice through the UDL lens. When kaiako and early interventionists focus on providing multiple ways of engaging children, multiple ways of representing information, and multiple ways of enabling action and expression, then the early childhood environments will truly be inclusive. This article outlines the three UDL principles and provides specific examples of enactment of these in early childhood environments.

KEYWORDS

Universal design for learning, early childhood, kaiako, early intervention

Early interventionists and kaiako

Many educational research studies over the years have proved that the early years of life are critical years with opportunities for growth and development in different areas not to be missed (Edmond et al., 2019; Guralnick, 2017). The basic functions of the brain and of the development of critical capacities for later learning are formed during these early years of life. From this point of view, having all children, including children with developmental delays and all those requiring additional support, benefit from the early years with quality interventions should be the basic philosophy of early childhood intervention (Guralnick, 2017; McClelland et al., 2017). Stockall et al. (2012) point out

that children often come to early childhood education with varying degrees of physical, social, emotional, communication and learning needs. It is, therefore, prudent at this stage for early interventionists and kaiako to utilise the principles of UDL early in children's lives to strengthen their inclusive practice in relation to *Te Whāriki*, the national early childhood curriculum, and *He Pikorua*, the learning support practice framework.

Benefits of early intervention

Early intervention is based on the view that if supports are put in place early in the life of an identified need or early in the child's life, there is more likely to be positive outcomes in the development of the child (Ministry of Education, 2003; Stockall et al., 2012). Positive approaches to early intervention are built upon the understanding that infants and toddlers develop through trusting and caring relationships with adults (O'Connor et al., 2019; Stockall et al., 2012). As a result, the capabilities of adults who care for children who are at risk of developmental delays or have neurodevelopmental needs are built through the supports they are given (Beaumont et al., 2021; Verger et al., 2021) and these will be significant in supporting children's development and learning. There is ample evidence suggesting that the earlier supports are given the greater probability there is of an improved developmental trajectory for the child (Koegel et al., 2014). It is also argued that giving early support is more cost and time efficient as opposed to waiting until school age (Koegel et al., 2014; O'Connor et al., 2019). This highlights the need for kaiako in early childhood to have an awareness of utilising the UDL principles in relation to the early childhood curriculum *Te Whāriki*. If more children progress well in their development early, this may result in less children requiring support at school.

Early childhood intervention in the New Zealand context

Early intervention can generally cover the provision of services to children from birth to eight who are considered vulnerable for reasons of disability, delayed development, at risk of disability, low socio-economic disadvantage, and/or child abuse, but is not limited to these (Alliston, 2007). In New Zealand it is largely used for children who are vulnerable for developmental delays, are at risk of disability, and have communication delays and behaviour challenges (Ministry of Education, 2021). Intervention in New Zealand is family-centred, with the practice framework *He Pikorua* putting the child and the family at the heart of all support given (Ministry of Education, 2019). *He Pikorua* framework requires partnership between early interventionists (the specialists who work in early intervention), families/whānau and kaiako in supporting children with additional needs. Campbell et al. (2009) argue that families/whānau want early interventionists to listen to them and communicate with them well, interact positively with their children, understand family/whānau routines, and fit interventions into everyday family/whānau life. This is what early intervention in New Zealand aims for through *He Pikorua* and *Te Whāriki*. Positive, holistic, and inclusive views of the kaiako and early interventionists are required to fulfil the expressed family/whānau desires. *He Pikorua* is a strengths-based practice framework for intervention, and it fits in well with *Te Whāriki* which is child-centred and where assessment is based on children's strengths and interests (Ministry of Education, 2017).

Te Whāriki is an inclusive curriculum of all children and therefore, to support kaiako, it seems logical to highlight for them how UDL principles can support their inclusive agenda.

Observing and recognising strengths requires kaiako and early interventionists to understand the child and family/whānau fully from an individualised perspective (Casses & Paquette, 2016). Recently, and mainly in the United States of America (USA), there has been a lot of research encouraging family-centred and routine-based early intervention (Bradshaw, 2013; McWilliam, 2010). In New Zealand, research by Berryman and Wooler (2011) also stresses the importance of family and whānau-based early intervention in improving outcomes for Māori children and reducing stress on whānau. While in the USA, the intervention is mostly home-based, in New Zealand, it is both families/whānau-based, and early childhood setting-based. According to participation statistics, by 2019 at least 97% of new entrance children had participated in an early childhood service (Ministry of Education, 2020). It therefore makes sense that kaiako are part of the intervention team. As a result, intervention happens in all the environments the child is present in during the week. Since many children attend early childhood education before starting school, it is essential for the kaiako to use effective methods and strategies that cater for individual needs. The UDL principles provide this opportunity through the focus on individualising learning experiences.

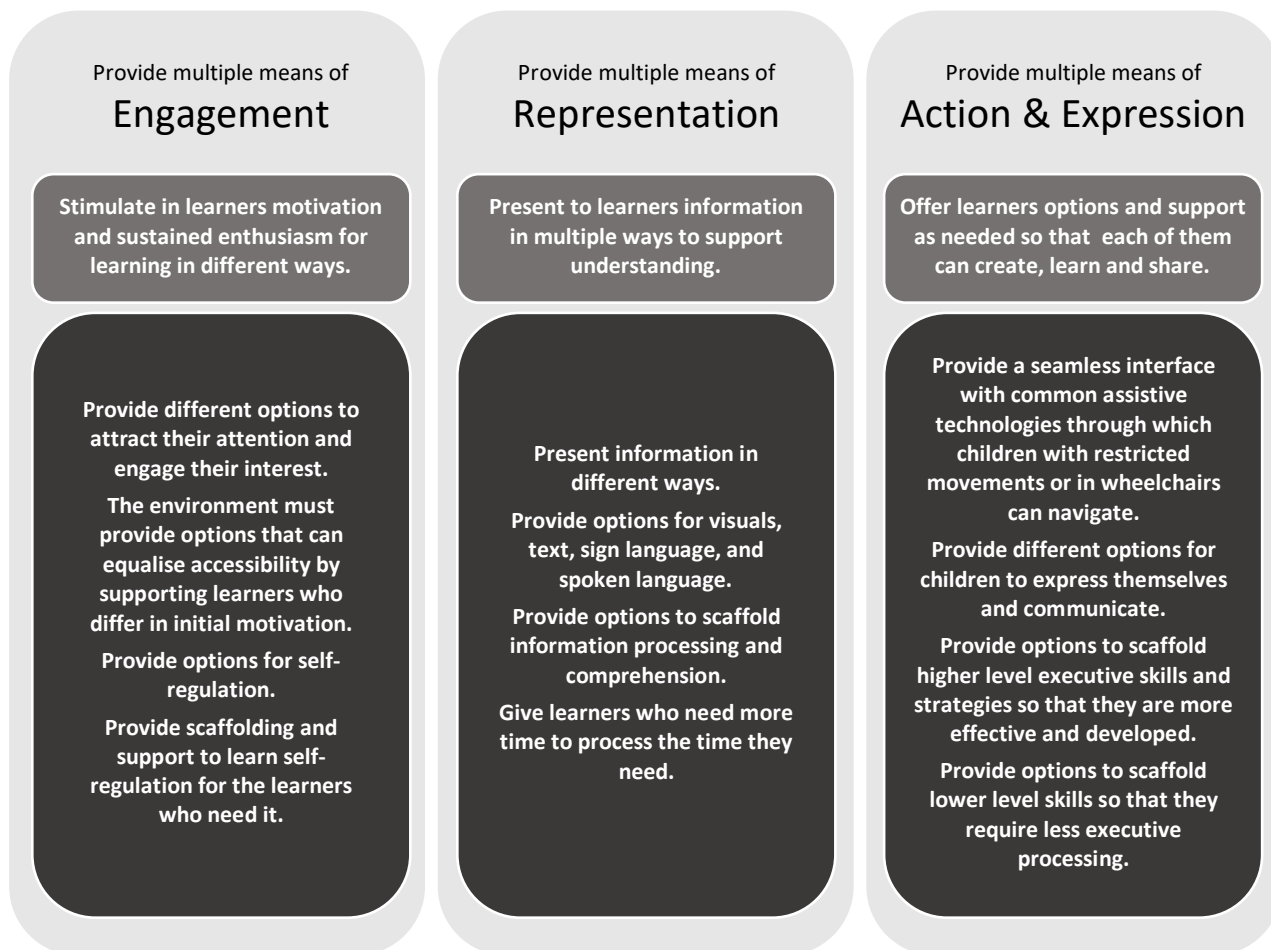
In New Zealand, early interventionists work in partnership with families/whānau and early childhood kaiako to provide early support services for the child, family/whānau and early childhood setting. The early intervention is provided within the framework of *Te Whāriki* and *He Pikorua*. *Te Whāriki* is an inclusive curriculum for all children who should be given the opportunity to learn with and alongside their peers by engaging in significant experiences for them. Teachers are encouraged to meet the individual needs of children through “adapting environments and teaching approaches as necessary and removing any barriers to participation and learning” (Ministry of Education, 2017, p. 13). This includes the needs of children who may be vulnerable, or have communication difficulties, developmental delays, behaviour challenges, or any disabilities. Inclusion in early childhood education is based on an understanding of respecting diversity such as gender, nationality, race, language, social background, the level of educational achievement, and diverse needs (UNESCO, 2009). To meet the needs of this diverse group of children, while using *Te Whāriki* and *He Pikorua*, it would be appropriate to use the UDL principles to strengthen inclusion. For example, *Te Whāriki* talks about making adaptations to accommodate individual needs, and UDL could then provide different ways in which these adaptations can be made.

UDL and early childhood intervention

Universal design for learning is about adapting the programme to meet the individual needs of all children, as opposed to creating a special programme for children needing additional support (Avci & Kunt, 2016; Stockall et al., 2012). UDL suits the idea of early intervention in natural environments. Early interventionists work with families (and in New Zealand, this includes early childhood kaiako) to create conducive environments for learning and development within the child’s natural daily routines (McWilliam, 2010). Simply, UDL provides the opportunity for inbuilt differentiation within individual kaiako practice if they reflect on their practice through its lens. Avci and Kunt (2016) state that UDL is

based on the philosophy that educational environments are easily accessed physically, socially, and emotionally. In early childhood education, there are components of multiple means of representation, multiple means of expression, and multiple means of engagement that relate to UDL (Avci & Kunt, 2016; Stockall et al., 2012). It is important that teachers are made aware of these and encouraged to utilise them in practise. Horn et al. (2016) urge early childhood kaiako to develop UDL-based plans for daily activities and experiences to support each child’s learning, and differentiate the learning materials according to individual needs, ensuring all children are included and giving extra support to those that need it. This means kaiako need to think critically about how the learning experiences they are providing to children are catering for different needs. *Te Whāriki* states that children requiring additional support are supposed to have individual plans with goals that have been agreed to with the family/whānau. Utilising UDL principles kaiako can then organise and manage the strategies, equipment and materials needed to achieve the goals using the UDL lens.

In Figure 1 the principles of UDL are summarised in a single diagram as a quick reminder for kaiako of the key concepts of UDL.



Adapted from CAST (2021)

Figure 1. Universal design for learning (UDL) principles

Application of UDL principles in early childhood education

Principle 1, *multiple means of engagement*, is centred on the notion that engagement in early childhood services is based on children's interests and provides necessary motivation (Avci & Kunt, 2016; Stockall et al., 2012). This principle is about ensuring that a variety of opportunities exist for stimulating the attention, curiosity and motivation for children, catering for a wide range of interests, preferences, and learning styles (Horn et al., 2016; Stockall et al., 2012). However, it is understood that some children need more motivation than others to engage, and therefore, different levels of scaffolding, repetition and appropriate challenges to maintain engagement for optimal learning are needed (Avci & Kunt, 2016; CAST, 2021). Therefore, it calls on adults to stimulate motivation in different ways to attract diverse children's engagement. It emphasises that children can participate in activities at a level appropriate to their developmental characteristics, hence, using Vygotsky's (1978) zone of proximal development, adults can scaffold further learning. Considering this, early interventionists should support kaiako in ensuring that the ways and means they have available to engage children cater for their different needs. This could include encouraging kaiako to be more animated and make tasks more interesting for those children that require a little more encouragement and reason to engage. Brainstorming ideas with families about the different ways they could support their child's meaningful engagement within the families' daily routines and experience would also support learning in the early childhood setting. Kaiako can also ensure there are multiple ways of engagement during activities. For example, during an activity in which children are learning about days or the week or months of the year, children could be allowed to engage in this learning through music, movement, dance and tactile experiences.

Principle 2, *multiple means of representation*, suggests that individuals need learning materials, experiences, and information presented to them in a variety of ways to gain knowledge and experience (CAST, 2021). It ensures that instructions, directives, questions, expectations and learning opportunities are available in a variety of formats and at different complexity levels, addressing a variety of needs and ability levels (Horn et al., 2016; Stockall et al., 2012). In early childhood education, there are many materials and programmes that provide for different ways of expression and gaining knowledge through multiple forms of representation including visual, sound, and touch (Avci & Kunt, 2016). Ensuring children have multiple opportunities to have learning represented in multiple ways can be done, for example, during a reading activity where kaiako can provide their voice to read the story, they can have visual props to represent the story being told, and they can invite children to feel different props available as they read a story. The kaiako and early interventionists should work with families and whānau to understand a child's preferences, needs and interests. This knowledge will support multiple ways of adapting and representing learning materials and activities that will enable individual children to fully experience meaningful learning with and alongside their peers. Kaiako and early interventionists can provide multiple means of representation through coaching, mentoring and problem solving together with the family/whānau. It would add value to their teaching if kaiako actively seek information and brainstorm how to improve their representation to benefit the diversity of abilities in their setting.

Principle 3, *multiple means of action and expression*, acknowledges that learners differ in how they navigate the environment, express themselves, and demonstrate what they know (CAST, 2021). This principle ensures that a variety of formats for demonstrating what they know, responding and expressing ideas, feelings and preferences are available (Stockall et al., 2012). Furthermore, children have options of materials to use and how they use them, thereby addressing individual abilities, interests, and strengths. Kaiako and other adults can be intentional about providing various opportunities for children to demonstrate their understanding and knowledge (CAST, 2021). The early interventionists involved in a setting can work together with kaiako to support families/whānau to problem solve various ways to observe and understand what children know and can do in their diverse ways. They can also work as a team in figuring out the kind of assistive technologies needed for different children. The various forms of action and expression in early childhood may include dancing, music, art, New Zealand sign language, visual supports and children's home languages but are not limited to these. For example, at a session of playing with trains, the kaiako can provide children with opportunities to build wooden train tracks with visual props, make train tracks in the sand, make train tracks through paint or through gloop, or drive trains on paper and on cushions. Through these different means of action and expression, and scaffolding as needed, kaiako can foster the development of executive function in children (CAST, 2021) which is important for later learning.

Conclusion

Universal design for learning in early childhood intervention focuses on creating appropriate environments and educational experiences that will unlock the potential for learning and development of children and meet the developmental needs of all children in their educational settings (Avci & Kunt, 2016; CAST, 2021). Early interventionists work with kaiako and service providers, supporting them in creating conducive education environments and programmes that will support the needs of all children enrolled. UDL sits well with *Te Whāriki, He Pikorua* and the narrative assessment in New Zealand early childhood education. While some kaiako are applying the UDL principles blindly in creating conducive learning environments for children, this is a call for all early childhood kaiako and early interventionists to intentionally use UDL principles when thinking about each child in their care and to consider individual planning for all children to raise achievement potentials. Using UDL principles and reflecting on practice will support New Zealand early childhood to achieve world class inclusive practice catering for each child's needs.

References

- Alliston, L. (2007). *Principles and practices in early intervention: A literature review for the Ministry of Education*. Research New Zealand.
<https://www.educationcounts.gov.nz/publications/learning-support/22575>
- Avci, N., & Kunt, M. (2016). Examination of Ministry of National Education's infant and toddler program regarding early intervention principles. *International Journal of Early Childhood Special Education*, 8(2), 120-133. <https://doi.org/10.20489/intjecse.284673>

- Beaumont, D., Blakey, T., Stuart, N., & Woodward, J. (2021). Increasing engagement for young children with autism spectrum disorder using way to play: A preliminary investigation of the adult training program. *Australasian Journal of Special and Inclusive Education*, 45(2), 178-190. <https://doi.org/10.1017/jsi.2021.14>
- Bradshaw, W. (2013). A framework for providing culturally responsive early intervention services. *Young Exceptional Children*, 16(1), 3-15. <https://doi.org/10.1177/1096250612451757>
- Berryman, M., & Wooler, P. (2011). Early intervention services: Effectively supporting Māori. *Kairaranga*, 12(1), 3-9. <https://doi.org/10.54322/kairaranga.v12i1.149>
- Campbell, P. H., Sawyer, L. B., & Muhlenhaupt, M. (2009). The meaning of natural environments for parents and professionals. *Infants and Young Children*, 22(4), 264-278. <https://doi.org/10.1097/iyc.0b013e3181bc4dd4>
- Casses, M. M., & Paquette, K. R. (2016). Standing outside the fire: Remaining objective and family-based in early intervention. *Education*, 137(2), 123-132.
- CAST. (2021). *The UDL guidelines*. Centre for Applied Special Technology. <https://udlguidelines.cast.org/>
- Edmond, K. M., Strobil, N. A., Adams, C., & McAullay, D. (2019). Effect of early childhood development interventions implemented by primary care providers commencing in the neonatal period to improve cognitive outcomes in children aged 0-23 months: Protocol for a systematic review and meta-analysis. *Systematic Reviews*, 8(224), 1-8. <https://doi.org/10.1186/s13643-019-1142-1>
- Guralnick, M. J. (2017). Early intervention for young children with developmental delays: Contributions of the developmental systems approach. In H. Sukkar, C. J. Dunst, & J. Kirkby (Eds.), *Early childhood intervention* (pp. 17-35). Routledge.
- Horn, E. M., Palmer, S. B., Butera, G. D., & Lieber, J. (2016). *Six steps to inclusive preschool curriculum: A UDL-based framework for children's school success*. Brookes Publishing Co.
- Koegel, L. K., Koegel, R. L., Ashbaugh, K., & Bradshaw, J. (2014). The importance of early identification and intervention for children with or at risk for autism spectrum disorders. *International Journal of Speech-Language Pathology*, 16(1), 50-56. <https://doi.org/10.3109/17549507.2013.861511>
- McClelland, M. M., Tominey, S. L., Schmitt, S. A., & Duncan, R. (2017). SEL interventions in early childhood. *The Future of Children*, 27(1), 33-47. <https://doi.org/10.1353/foc.2017.0002>
- McWilliam, R. A. (2010). *Routines-based early intervention: Supporting young children and their families*. Siskin Children's Institute.
- Ministry of Education. (2003). *Church report: The definition, diagnosis and treatment of children and youth with severe behaviour difficulties*. Ministry of Education. <https://www.educationcounts.gov.nz/publications/learning-support/15171>

- Ministry of Education. (2017). Te whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa. Early childhood curriculum. <https://www.education.govt.nz/assets/Documents/Early-Childhood/Te-Whariki-Early-Childhood-Curriculum-ENG-Web.pdf>
- Ministry of Education. (2019). *He pikorua: Our practice framework*. <https://hepikorua.education.govt.nz/>
- Ministry of Education. (2020). *Early learning participation*. Education Counts. <https://www.educationcounts.govt.nz/statistics/participation>
- Ministry of Education. (2021). *Early intervention services*. <https://www.education.govt.nz/early-childhood/teaching-and-learning/early-intervention/>
- O'Connor, A., Skouteris, H., Nolan, A., Hooley, M., Cann, W., & Williams-Smith, J. (2019). Applying intervention mapping to develop an early childhood educators' intervention promoting parent-child relationships. *Early Childhood Development and Care*, 189(7), 1033-1050. <https://doi.org/10.1080/03004430.2017.1362401>
- Stockall, N. S., Dennis, L., & Miller, M. (2012). Right from the start: Universal design for preschool. *Council for Exceptional Children*, 45(1), 10-17. <https://doi.org/10.1177/004005991204500103>
- UNESCO. (2009). *Policy guidelines on inclusion in education*. <https://unesdoc.unesco.org/ark:/48223/pf0000177849>
- Verger, S., Riquelme, I., Bagur, S., & Paz-Lourido, B. (2021). Satisfaction and quality of life of families participating in two different early intervention models in the same context: A mixed methods study. *Frontiers in Psychology*, 12, 1-11. <https://doi.org/10.3389/fpsyg.2021.650736>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

AUTHOR PROFILE



Thecla Moffat

Thecla Moffat is an educator, early intervention specialist and an advocate for inclusion who has been in the teaching field for the past three decades. Thecla is passionate about inclusion and advocates for children's rights and needs to be met in their educational settings. She has worked in a variety of settings from primary school, early childhood, and university lecturing. She worked for the Ministry of Education prior to joining Autism New Zealand to start a new early intervention service.

Email: theclamoffat@xtra.co.nz