

Lego-Based Therapy



Anwen Phillips, 1501950, May 2018.

(Source: Higgins, 2017)

Lego Therapy is suitable as an intervention for children with Autistic Spectrum Disorder (ASD), particularly for children who have difficulties with social interactions and communicating appropriately (LeGoff and Sherman, 2006). According to LeGoff et al. (2014), Lego Therapy aims to overcome the social difficulties children with ASD experience through the use of structured therapy sessions based around Lego. This poster will explain Lego Therapy and consider common barriers children with autism face in early years settings and how Lego Therapy aims to overcome these difficulties thus ensuring inclusive practice and equal opportunities for all children.

LeGoff et al. (2014) define Lego-Based Therapy as a form of play therapy where children can build Lego models either in individual therapy sessions or in collaborative sessions. Group sessions are usually made up of three children, who are given the task of completing a small Lego set. According to Carr (2016), while the focus of the group is on Lego, the focus of the practitioner is to encourage the children's social communication skills and team work. Each child is assigned a role which has a particular job (LeGoff, 2004). After the set has been built, the children are given an opportunity to discuss how it went, offer feedback and praise before ending with a free play Lego session which allows for a multi-sensory, open-ended play experience (Wang, 2013).

Wall (2010) states that autism is a spectrum of disorders, therefore, the characteristics of autism will vary from child to child. She believes that it is important that every child is viewed as an individual. The National Autistic Society (2014), Wall (2010) and Plimley et al. (2007) give some examples of the social difficulties children with ASD may have or find difficult. They may avoid eye contact, will not want to or have difficulty playing, communicating or interacting with other children and there may be no desire to create friendships. Children with autism may be unable to or find it difficult to interpret or understand other people's feelings or emotions. Furthermore, the process of a conversation or the meaning of gestures and facial expressions will have little meaning to them.

Owens et al. (2008) note how typically developing children acquire these skills naturally in order to have successful social relationships. While children with ASD do not naturally acquire these skills, they describe how it can have a negative effect on all areas of their lives. Similarly, Cappadocia et al. (2012) believe that these behaviours put a child at risk of excluding themselves from the social constructs of a classroom or setting.

The National Research Council (2001) claims that the social competence of children with ASD is a predictor of their long-term outcomes, therefore, Owens et al. (2008) state that it is vital that the social skills of children with ASD are helped in order to create better future prospects for them, and that ideally the intervention should start as soon as possible. Lego-Based Therapy aims to assist with the social issues as described here.

The three roles in Lego Therapy:

- Engineer— Their role is to take charge of the instructions. They must ask the Supplier to find the correct pieces of Lego and tell the Builder how to build the set by using verbal commands. Usually the Engineer is the oldest or most able member of the group or has been rewarded with the role after earning the most Lego Points. The Engineer is considered the most difficult role due to the level of verbal describing involved.
- Supplier— The Supplier is responsible for all the Lego pieces, which are laid out on a tray in front of them. They must listen to the Engineer and follow their instructions. They then pass on the correct pieces to the Builder. This role strengthens children's cognitive skills.
- Builder— This role involves taking pieces from the Supplier and listening to the Engineer for instructions on how to put the set together. This is often the most coveted role and requires the use of fine motor skills to put the pieces together.

(Carr, 2016; LeGoff et al., 2014)

A study by Andras (2012) observed the social interactions of eight primary school age children with ASD in a playground. They were observed before a ten week intervention of Lego Therapy began, at the end of the ten weeks and again ten weeks after the intervention finished. The study found an increase in the number of social interactions observed after the intervention and these findings were sustained ten weeks after the therapy finished. Prior to the intervention, Andras found that interactions where children with ASD copied the play of typically developing children or physically touched them during social interactions were the most frequent types of interaction seen in the playground. According to Perepa (2011), the unstructured nature of a playground can be difficult for a child with ASD. She states that due to the difficulties with communication and social skills the child may not know how to approach another child, may intrude on another child's personal space or physically touch them. After the intervention, Andras (2012) discovered that these types of interactions were reduced and replaced with increased verbal communications and the sustained play of organised games such as football. Andras also notes how there was a knock-on effect where the more the children with ASD were involved in games and interactions on the playground, the more their peers included them and initiated contact with them. Multiple other studies have produced recorded improvements in the social development of children with ASD after receiving a Lego-Based Therapy intervention. However, sample sizes are often small and do not include girls, which as Songara (no date) and Owens et al. (2008) agree, could impact results as girls may not find Lego as appealing as boys do thus affecting outcomes. Cheng (2016) and LeGoff (2004) state how previous social therapies for children with ASD have produced the desired outcomes during a therapy session, but the social skills learnt weren't replicated in other social situations with their peers. Wall (2010), Plimley et al (2007) and Jordan (2002) state how children with ASD may learn something in a classroom but find it difficult to generalise what they have learnt to use in another context due to a lack of flexible thinking.

James (2018) and LeGoff et al. (2014) state that having rules within Lego Therapy provides a structure to the session and can offer examples of acceptable behaviour. Wall (2010) acknowledges that for children with ASD routines and structure are needed in a world which is otherwise confusing. ASD Aid (2018) state that since children with ASD are very often attracted to systems, they will be more likely to be motivated by the brick system of Lego which is a highly structured, predictable and systematic construction toy.

LeGoff et al. (2014) created a Lego Points system to encourage positive behaviours, points are awarded for pro-social and Lego related achievements. Giving small Lego prizes after collecting a certain amount of points can be useful to start with, however, after a while the children began to seek the social approval of earning points (LeGoff et al., 2014). According to Berk (2012), this method of positive reinforcement reflects Skinner's Operant Conditioning Theory, where the frequency of a behaviour can be increased by using reinforcers such as the toy rewards and social praise used in Lego Therapy.

To conclude, studies have shown that Lego Therapy has proven results in improving children's social skills, therefore creating improved future prospects for children with ASD. The fact that Lego is a structured brick system, its natural appeal to children with ASD and the focus on encouraging social interactions between children has created a successful intervention strategy.

Further Reading.

Andras, M. (2012) 'The value of LEGO® Therapy in promoting social interaction in primary- aged children with autism', Good Autism Practice, Volume 13, No. 2, pp.17-24.

Carr, S. (2016) 'Lego Therapy' PowerPoint. [On-line]. Available at: <https://bso.bradford.gov.uk/.../file/Lego%20Therapy%20Presentation%20May16.pptx> [Accessed: 9th May 2018].

LeGoff, D. B., Gómez de la Cuesta, G., Krauss, G. W. and Baron-Cohen, S. (2014) *Lego-Based Therapy*. London: Jessica Kingsley Publishers.

The National Autistic Society. (2nd April 2014) *What is autism?*. YouTube. [On-line]. Available from: <https://www.youtube.com/watch?v=d4GOHTIUBII> [Accessed: 3rd May 2018].

Wall, K. (2010) *Autism and Early Years Practice*. (2nd ed) London: SAGE Publications Ltd.

References

American Montessori Society. (2018) 'Introduction to Montessori method' <https://amshq.org/Montessori-Education/Introduction-to-Montessori> [Accessed: 19th May 2018].

Andras, M. (2012) 'The value of LEGO® Therapy in promoting social interaction in primary-aged children with autism', *Good Autism Practice*, Volume 13, No. 2, pp.17-24.

ASD Aid. (2018) 'Lego Therapy' <http://asdaid.org/lego-and-asd/lego-therapy> [Accessed: 17th May 2018].

Berk, L. E. (2012) *Child Development*. (9th ed). Boston: Allyn and Bacon.

Beus, B. (2014) *Conditioned Reinforcement and the Value of Praise in Children with Autism*. Thesis. Utah State University.

Boyne, S. E. J. (2014) *An evaluation of the 'Lego® Therapy' intervention used to support children with social communication difficulties in their mainstream classroom*. Thesis (DAppEdPsy). University of Nottingham.

Brett, E. (2013) *Lego Therapy: Developing social competence in children with Asperger syndrome through collaborative Lego play*. Thesis. University of Exeter.

Cappadocia, M. C., Weiss, J. A. and Pepler, D. (2012) 'Bullying experiences among children and youth with autism spectrum disorders', *Journal of Autism and Developmental Disorders*, Volume 42, Issue 2, pp.266-277. [On-line]. Available at: <https://web-b-ebshost-com.ezproxy.uwtsd.ac.uk/ehost/pdfviewer/pdfviewer?vid=1&sid=2718326d-778f-4f54-aded-2a919350cd47%40sessionmgr120> [Accessed: 12th May 2018].

Carr, S. (2016) 'Lego Therapy' PowerPoint. [On-line]. Available at: <https://bso.bradford.gov.uk/.../file/Lego%20Therapy%20Presentation%20May16.pptx> [Accessed: 9th May 2018].

Cheng, Y. F. S. (2016) *The effectiveness of the Lego® therapy intervention in promoting the social interaction of children with Autism Spectrum Condition in the playground: An evaluation study*. Thesis (PhD). University College of London.

References

- Garber, M. (2013) 'Would You Send Your Kid to the 'Lego School'?', *The Atlantic*, 26 May: pp.1-3. [On-line]. Available at: <https://www.theatlantic.com/technology/archive/2013/05/would-you-send-your-kid-to-the-lego-school/276254/> [Accessed: 20th May 2018].
- Higgins, C. (2017) 'How Many Combinations Are Possible Using 6 LEGO Bricks?' <http://mentalfloss.com/article/92127/how-many-combinations-are-possible-using-6-lego-bricks> [Accessed: 15th May 2018].
- James, C. (2018) Model Church in Wales School.
- Jordan, R. (2002) *Autistic Spectrum Disorders in the Early Years: A Guide for Practitioners*. Lichfield: QEd.
- LeGoff, D. B. (2004) 'Use of LEGO[C] as a Therapeutic Medium for Improving Social Competence', *Journal of Autism and Developmental Disorders*, Volume 34, Issue 5, pp.557-571. [On-line]. Available from: <https://search-proquest-com.ezproxy.uwtsd.ac.uk/docview/205299867?OpenUrlRefId=info:xri/sid:primo&accountid=130472> [Accessed: 14th May 2018].
- LeGoff, D. B. and Sherman, M. (2006) 'Long-Term Outcome of Social Skills Intervention Based on Interactive LEGO Play', *Autism: The International Journal of Research & Practice*, Volume 10, No. 4, pp.317-329. [On-line]. Available at: <http://journals.sagepub.com.ezproxy.uwtsd.ac.uk/doi/abs/10.1177/1362361306064403> [Accessed: 11th May 2018].
- LeGoff, D. B., Gómez de la Cuesta, G., Krauss, G. W. and Baron-Cohen, S. (2014) *Lego-Based Therapy*. London: Jessica Kingsley Publishers.
- Mead, S. (no date) *12 Montessori Toys to Help Your Child Learn Through Play*. Whitby School's Passion for Learning Blog. Blog [On-line]. Available from: <https://www.whitbyschool.org/passionforlearning/12-montessori-toys-to-help-your-child-learn-through-play> [Accessed: 20th May 2018].
- National Research Council. (2001) *Educating children with autism: Committee on educational interventions for children with autism. Division of behavioural and social sciences and education*. Washington DC: National Academy Press.

References

Owens, G., Granader, Y., Humphrey, A., and Baron-Cohen, S. (2008) 'LEGO ® Therapy and the Social Use of Language Programme: An Evaluation of Two Social Skills Interventions for Children with High Functioning Autism and Asperger Syndrome', *Journal of Autism and Developmental Disorders*, Volume 38, No. 10, June, pp.1944-1957. [On-line]. Available at: <https://link-springer-com.ezproxy.uwtsd.ac.uk/content/pdf/10.1007%2Fs10803-008-0590-6.pdf> [Accessed: 16th May 2018].

Perepa, P. (2011) *Classroom and playground: support for children with autism spectrum disorders*. London: The National Autistic Society. [On-line]. Available at: file:///C:/Users/Anwen/Downloads/Classroom_and_playground.pdf [Accessed: 6th May 2018].

Plimley, L., Bowen, M. and Morgan, H. (2007) *Autistic Spectrum Disorders in the Early Years*. London: Paul Chapman Publishing.

Songara, J. (no date) How effective is the 'Lego® Therapy' intervention to support children aged 5-16 with an autistic spectrum disorder with their social communication difficulties in school? Thesis (Doctorate). [On-line]. Available at: www.ucl.ac.uk/educational-psychology/resources/CS1Songara16-19.pdf [Accessed: 14th May 2018].

The National Autistic Society. (2nd April 2014) *What is autism?*. YouTube. [On-line]. Available from: <https://www.youtube.com/watch?v=d4G0HTIUBII> [Accessed: 3rd May 2018].

Vaiouli, P. and Ogle, L. (2015) 'Music Strategies to Promote Engagement and Academic Growth of Young Children With ASD in the Inclusive Classroom', *Young Exceptional Children*, Volume 18, No. 2, June, pp.19-28. [On-line]. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/1096250614523968> [Accessed: 20th May 2018].

Wall, K. (2010) *Autism and Early Years Practice*. (2nd ed) London: SAGE Publications Ltd.

Wang, K. (October 14th 2013) *How Lego Therapy can help children with special needs*. Therapy Tips. Blog [On-line]. Available from: <https://www.friendshipcircle.org/blog/2013/10/14/how-lego-therapy-can-help-children-with-special-needs/> [Accessed: 18th May 2018].