The novel use of LEGO®-based therapy to develop communicative competence in children who use augmentative and alternative communication (AAC) systems

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The novel use of LEGO®-based therapy to develop communicative competence in children who use augmentative and alternative communication (AAC) systems.

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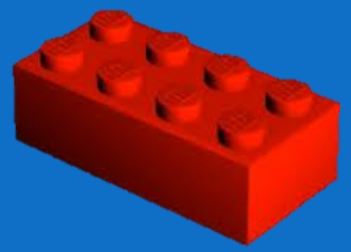


Lansbury Bridge School & Sports College

A specialist educational provision catering for pupils aged 3-16 years who have Educational Health and Care Plans reflecting their complex learning and/or medical needs

Most pupils have communication challenges which staff and pupils work together to overcome, and **strengths** that we celebrate

The achievement of effective overall communication skills can be complex and challenging for our pupils that use Augmentative and Alternative Communication systems (AAC)

What is LEGO®-based therapy?

LEGO®-based therapy takes a naturalistic approach to the development of social communication skills (LeGoff, 2004; LeGoff et al., 2014)

It uses play to develop social communication by creating opportunities for interaction - collaborative play therapy

Group members take on roles as they communicate and work together with peers following the social rules of communication to collaboratively build LEGO® sets

It uses children's interests to promote the development of social, communication and play skills (Attwood, 1998)

Can be linked to Baron Cohen's Empathising-Systemising model (Baron-Cohen et al, 2005) and social constructivism

LEGO®-based therapy uses

Can help to develop a child/young person's ability to:

- Initiate conversations with peers
- Sustain interactions with peers for an increased length of time
- Problem-solve whilst building a specified model in groups of three
- Practice social skills such as turn taking, joint attention, sharing, joint problem-solving and listening
- Share goals and mutual purpose with peers

Primarily used with verbal young people with Autism Spectrum Condition (ASC) (LeGoff, 2004; LeGoff et al., 2014)

Why a potential use with AAC Users?

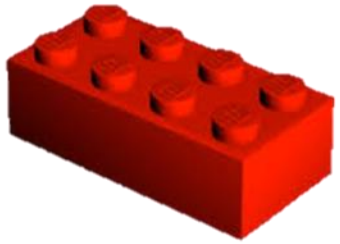
18.9% of UK AAC users have a diagnosis of ASC (Enderby et al., 2013)

Social communication and interaction skills are often highlighted as an area of challenge for many AAC users (Light and McNaughton, 2014)

Andrews et al. (2012) highlighted potential benefits to verbal communication such as vocabulary development

Anecdotal observations have been made by many speech and language therapists of the benefits to AAC users in a range of areas of communication development

Potential to help develop areas of communicative competency



Communicative Competency

"A dynamic interpersonal construct based on functionality of communication; adequacy of communication; and sufficiency of knowledge, judgement and skills"

- Light (1987), Light & McNaughton (2014)

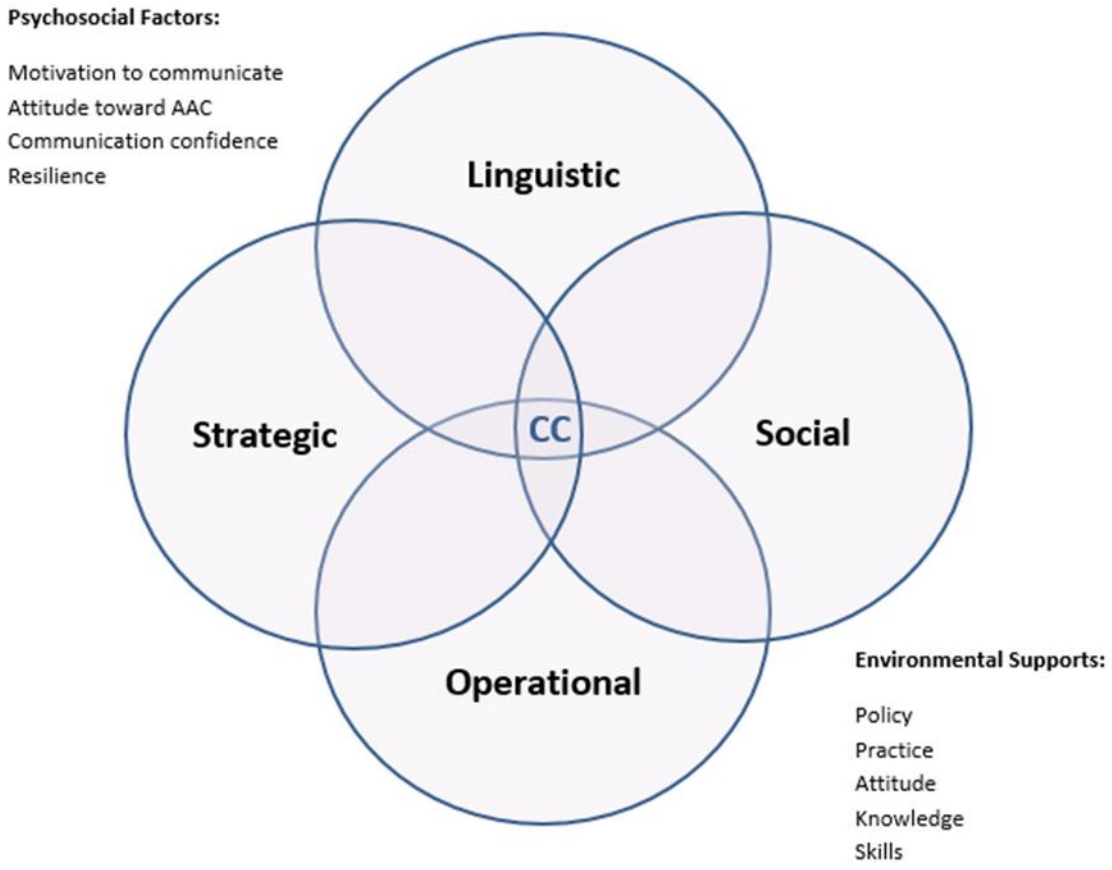


Diagram based on Light (1987) & Light & McNaughton (2014)

Links to LEGO®-based therapy

The structure of the group and roles within it provides children with the opportunity to develop single or multiple areas of competency

1. **Engineer**
   Describes the instructions (largely expressive)
2. **Supplier**
   Finds the right pieces (largely receptive)
3. **Builder**
   Puts the pieces together (largely receptive)
4. **Inspector**
   Makes sure that the team is working effectively (largely expressive)

Gamification

LEGO®-based therapy can be viewed as approach involving many gamification techniques.

Gamification provides a balance between the development of social interaction and gaming (Mosley and Whitton, 2014)

Adults within LEGO®-based therapy act as facilitators; drawing influence from social constructivism with the adult's role less of a teacher and more a part of a co-operative learning process between the learner, their facilitator and their environment (Palincsar, 1998)

Learners are able to demonstrate their capabilities and draw their own conclusions (Rhodes and Bellamy, 1999; Brownstein, 2001)

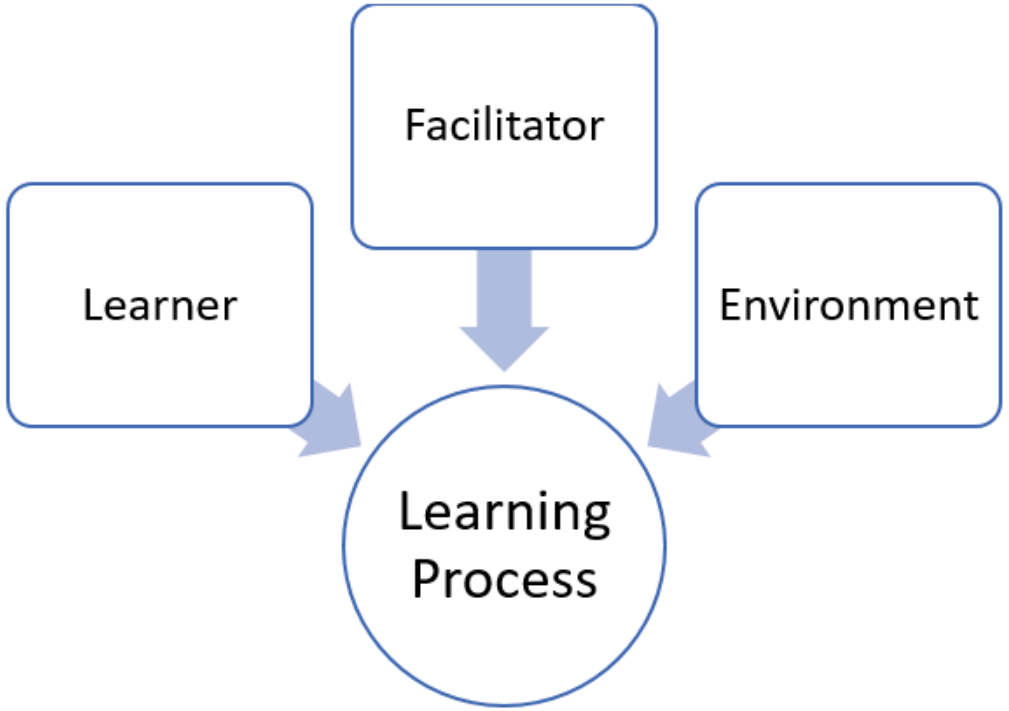


Diagram based on Palincsar (1998)

Gamification

LEGO®-based therapy is one of the only naturalistic social competency interventions that has succeeded in participants generalising their learnt skills to other environments (LeGoff, 2004)

Moseley and Whitton (2014) suggest that if created with a balance between gaming and educational content, games can develop experiential learning and generalisation of skills to other environments. This occurs by learners testing skills that they have acquired (Hopkins and Roberts, 2015)

Moseley and Whitton also suggest that such games can promote "key generalisable skills such as communication, negotiation and teamwork" (2012:12)

Case study outcomes

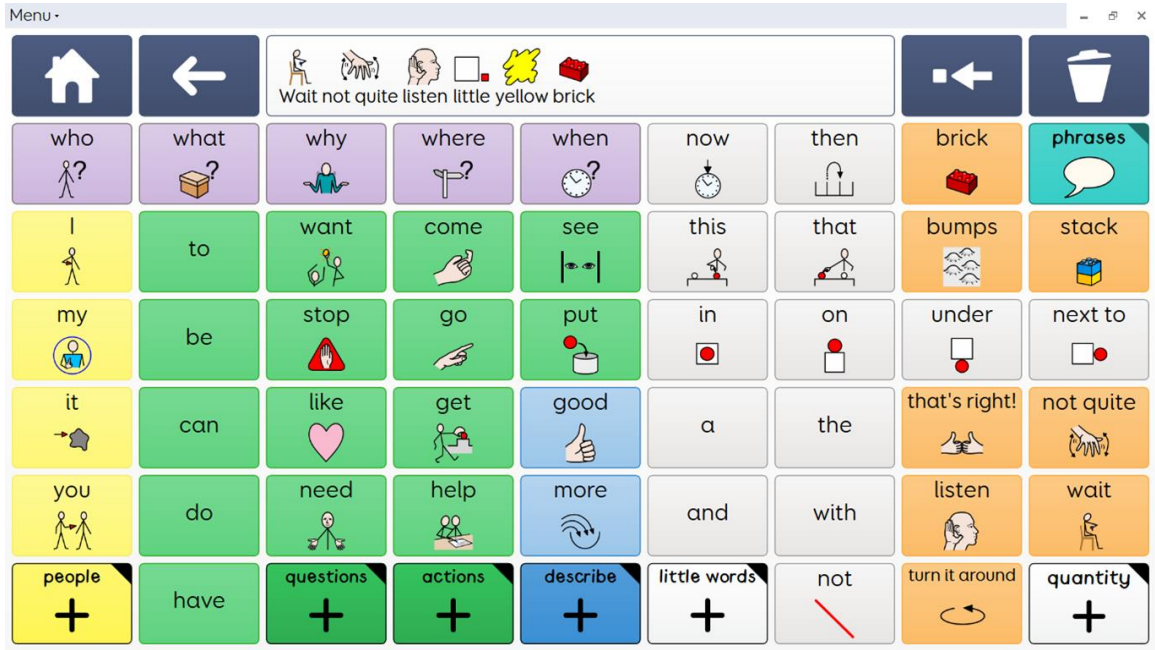
The initial findings from a series of case studies highlight the potential benefits of using a gamification approach featuring adapted LEGO®-based therapy, to develop single or multiple communication competencies in young AAC users with developmental disabilities

The findings also indicate the successful adaption of LeGoff's (2004) original LEGO®-based therapy design, as a therapeutic intervention to enhance single and multiple communicative competences of young AAC users

Further case study outcomes

The case studies provide insights into the development of communicative competencies (linguistic, operational, social, strategic) coupled with the influence of psychosocial factors and environmental supports

The project highlighted the importance of recognising and responding to linguistic, operational, social and strategic challenges faced by children using AAC devices
during therapeutic intervention



The use of adapted LEGO®-based therapy with young AAC users is not without challenges, but these are not insurmountable

Considerations

Adapted LEGO®-based therapy has been explored in this presentation:

- There are significant differences in the role of adult facilitators with an AAC client group; facilitators seem to be more heavily relied upon than in an ASD group and effective communicative partners are vital (Blackstone and Hunt Berg, 2012
- All adult facilitators require training and support and the success of the intervention can reply heavily upon the strength of the supporting staff members
- Some sessions were quite short in duration due to the fatigue encountered by many of the users; especially those using eye gaze access methods of access
- Time requirements for personalisation of resources – clinical costings
- Potential preparatory sessions required to develop pre-requisite skills for accessing a group e.g. folder navigation skills, use of social language such as "I don't understand"

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Thank you for listening – any questions?

Please feel free to contact me for any further information

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