



Queensmill School

Research & Development Newsletter

Welcome and Update from R&D board

Welcome to the first edition of the Queensmill R&D newsletter for this academic year.

It has been a busy term with a number of projects taking place including the end of our sleep study. Queensmill has also welcomed a new addition to the team—Zeno the robot. Read more about Zeno in the newsletter.

One of the research projects happening at Queensmill in the New Year will be looking at behavioural and developmental approaches used in school to support our pupils. This issue of the newsletter will explore current research on behavioural and developmental approaches and the integration of these approaches.

Caroline Bulmer,
Research & Development Coordinator



NEW QUEENSMILL APP

The R&D page is now up and running on the Queensmill app. This provides access to a range of information about research both in and out of school. You can also access old newsletters, research summaries and journal club information at: <http://www.queensmillschool.com/R&D.html>

Different approaches to supporting children with autism

It can sometimes be a challenge for parents and professionals to fully understand the different strategies that can be used to support the education and development of children with autism. Often these interventions are labelled as behavioural or developmental approaches. During the 1980s and 1990s much research was undertaken in the benefits of Applied Behaviour Analysis (ABA) (behavioural science) for children with autism.

At the same time, research into how all children develop (developmental science) was taking off, including how children communicate, their language development and how they learn socially. This research was also applied, with success, to the development of children with autism.

As both fields of research developed, it became clear that effective interventions to support children with autism need to take into account both behavioural and developmental approaches. (Schreibman et al. 2015). These approaches have become known as the naturalistic developmental behavioural interventions (NDBI); this is the approach we take here at Queensmill in order to support our children with autism. In this newsletter we write a bit more on the approaches.

Research papers

Applied Behaviour Analysis in Autism Spectrum Disorders (Matson et al. 2011)

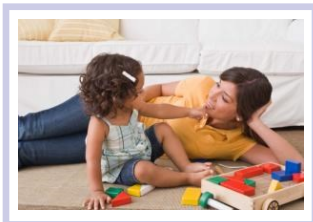
This paper provides a review of ABA research and the areas receiving greatest attention such as: early intensive intervention, parent training, assessment, challenging behaviours, independent living skills, and social skills training.

One of the studies described in the review taught mothers how to effectively implement PECS using written instructions, modelling, practice and feedback.

Some of the studies looked at feeding and sleep problems for children with autism. They point out that many of the most effective approaches have targeted food refusal; and that this problem is mainly linked to extreme food selectivity and interest in specific food textures. Queensmill use a range of evidence based strategies to effectively address both feeding and sleep problems for students.

In relation to life skills, studies found that when children were allowed to pick their motivators, the effectiveness of the motivator increased. Some research has looked at task engagement and found that specific versus general instructions were more useful in increasing task engagement. Queensmill staff offer a range of motivators to support student engagement, incorporating special interests into school activities and using rewards chosen by the child. Instructions provided to students are individualised based on the child's level of understanding.

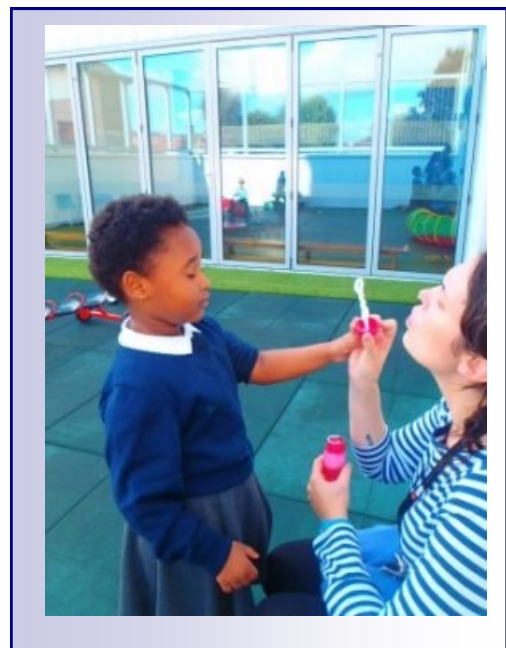
In general, the greatest attention in research for ABA has centred on early intervention. Early intervention and other areas mentioned above are in line with Queensmill's focus on approaches, training and research.



Naturalistic Developmental Behavioural Interventions (NDBI) (Schreibman et al. 2015)

This paper looks at research on the integration of behavioural and developmental strategies. The paper argues the strengths of using a variety of behavioural strategies to teach developmentally appropriate skills. The main components of these approaches include learning targets, learning contexts and learning strategies.

Research suggests the effectiveness of early intervention and mixing behavioural and developmental strategies to target areas such as engagement, joint attention, communication and cognitive skills. Studies have shown positive outcomes in communication language and social behaviour when these strategies have been applied in homes and schools. Various approaches which incorporate both developmental and behavioural strategies share certain features such as the use of everyday activities and natural environments; motivators for learning and participating; promoting spontaneity and generalisation across different contexts.



Integration of developmental and behavioural approaches

The main components of these mixed approaches include: learning targets; learning settings; and learning enhancing strategies.

Learning targets:

The goal is that the development of a skill (e.g. learning a new word or gesture) will be used in other activities and with other people. Example targets include working on joint attention and imitation. Joint attention refers to the use of gestures or language with other people to share information. The development of joint attention has been found to lead to better language skills. Imitation is also important for learning social skills. Children's ability to imitate allows them to engage and learn from others and develops their sense of theory of mind (an awareness of other people's actions).

Learning settings

Learning is improved when activities contain emotionally meaningful social interactions. Research suggests that the meaningfulness of the activity for the child, the relationship between child and adult, and the interaction for the child allows learning and generalisation of new skills.

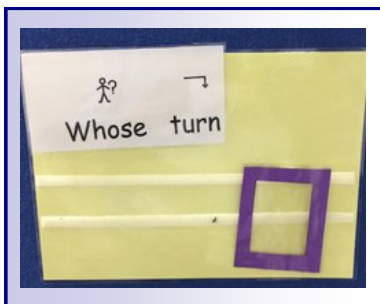
Learning strategies:

Integrating behavioural strategies such as modelling, shaping, and prompting, support the child to expand on their language, their play, and the number of steps involved in a routine. The rewarding importance of these everyday child led activities increases child motivation and increases learning behaviours.



Social Communication Emotional Regulation and Transactional Support

One of the approaches we use at Queensmill which is influenced by behavioural and development approaches is SCERTS.



The SCERTS model focuses on:

Social communication: the development of spontaneous, functional communication, emotional expression, and secure and trusting relationships with children and adults.

Emotional regulation: the development of the ability to maintain a well-regulated emotional state to cope with everyday stress, and be ready for learning and interacting.

Transactional support: the use of supports to help adult's respond to the child's needs and interests, modify and adapt the environment, and provide tools to enhance learning (e.g. picture communication, written schedules, and sensory supports).

Robot visits Queensmill



Zeno the Robot

The Centre for Research in Autism and Education (CRAE) at University College of London has been running a project called De-Enigma at Queensmill School this term using a robot. They have been looking at whether a human-like robot can help children on the autism spectrum to learn to use and understand emotions in faces, voices and bodily movements.

The teaching sessions included a number of games and stories to teach the children about emotions. They started off easy and became more difficult as children began to learn the emotions. For example, in one game, the researcher/robot expressed 'happy' using their face,

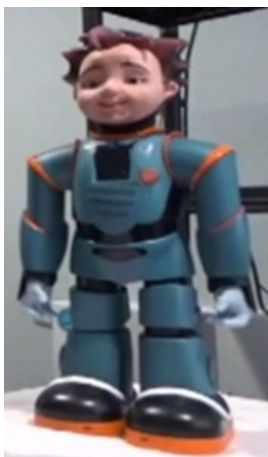
voice and gestures. The child was then shown a series of pictures and asked to choose which image matched the expression the researcher/robot made. In later sessions the child was also asked to imitate the emotion.



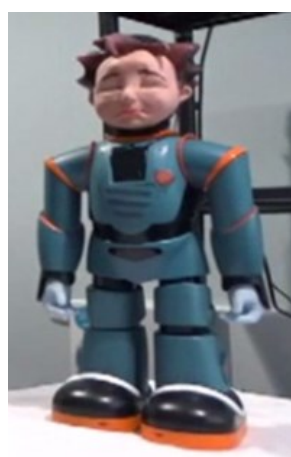
The games and stories used during the teaching sessions with the robot and child were then introduced to the parents. The project wanted to see whether what the children learned about emotions with the researcher and robot would be used with other people.

At first, some children were a bit anxious and shy with the robot. Other children began to share their toys with the robot but not the researchers, and some loved playing with the robot and focused their full attention on him, while in other situations they would be easily distracted.

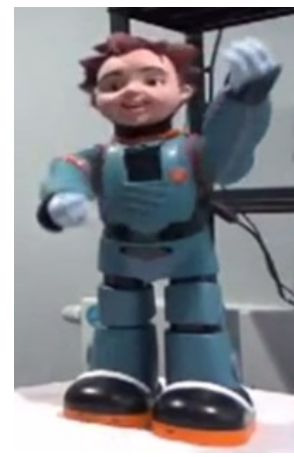
Findings will be published in the new year .



Happy Zeno



Sad Zeno



Dancing Zeno