AUTISM NEWS

of Orange County & the Rest of the World

Winter 2011 *Volume 6, Issue 1*

Cover artwork created by Nathaniel Mackin

Contents

Cover Feature

We are pleased to feature one of our local artists, **Nathaniel Mackin**. Read more about Nathaniel on page 14.

Mission Statement

Autism News of Orange County *& the Rest of the World* is a collaborative publication for parents and professionals dedicated to sharing research-based strategies, innovative educational approaches, best practices and experiences in the area of autism.

Submission Policy

The Autism News of Orange County–*RW* is available free of charge. The opinions expressed in the newsletter do not necessarily represent the official view of the agencies involved.

Contributions from teachers, therapists, researchers and relatives/children of/with autism are welcome. The editors select articles and make necessary changes.

Please submit articles in Microsoft Word using font size 12, double spaced, and no more than four pages in length (2600 words). Photos are encouraged and when submitted with articles the permission to include is assumed.

Please E-mail all correspondence to:
Dr. Vera Bernard-Opitz
verabernard@cox.net

Please visit our website: www.autismnewsoc.org

Editorial

By Vera Bernard-Opitz

The latest technologies sure are exciting for us all, but for individuals with autism and their parents, families, friends and involved professionals these advances often constitute a true "blessing." **All of a sudden kids equipped with iPod touch and iPad are the stars in recess** instead of being outsiders because of some cumbersome communication device. Many teachers and therapists welcome apps, which allow their fingers to heal from endless work on teaching material with "good old" Velcro. Organizations like "Mothers with Apps" have started lucrative companies, based on successful development of applications, which in most cases started with their own child.

In addition, training in the field is also undergoing a silent revolution. While face-to-face contacts in consultation sessions, workshops or other training programs used to be the main avenue for acquiring relevant knowledge and training experience, **web-seminars, video-training-programs and tele-consultations now are available often 24 hours a day, from every part of the world with fast Internet access.**

Will puzzles, lottos, dominos, board games and self-made TEACCH material soon be a thing of the past, just like books, replaced by electronic versions? How about good old teaching using textbooks and black-/whiteboards? We must admit that even the most animated teacher or enthusiastic parent has a hard time beating a fast-paced computer game. Will family time, student-teacher or peer interaction increasingly be reduced because emailing and online courses are so much easier to fit into busy schedules? Who wants to take photos, laminate, label, cut and paste pictured schedules, if an application can be downloaded for little money and in no time? Thousands of electronic learning programs, games, pictures or visual displays are now available on increasingly smarter devices. Voice-to-Speech programs make typing unnecessary and Text-to-Speech options allow text to be read with the tip of the finger. Children can now film their weekend with an iPod touch and present it to their class on Monday with added text or speech on a large Smart Board.

For some of us these developments sound like the *"Brave New World,"* which comes too fast and challenges our familiar ways of being. **In an earlier issue on Technology and Play (Autism News, Fall 2007) we discussed the need for establishing a balance between technological advances, hands-on learning and play activities as well as personal face-to-face interactions.** Whether books, games, schools and seminars can survive is a decision families, teachers, therapists, and administrators face. If technology is used for the right individual at the right time – and "dosage" – for the right purpose, it sure can be a huge blessing, especially for kids with autism. On the other hand there is the risk that the virtual world takes over and that individuals with autism are even less exposed to regular social interactions, face-to-face interactive play, haptic experiences, sensori-motor or self-help demands. **This population surely needs our help, be it through traditional play and teaching material, a cool communication device with the latest app, a caring parent, excellent teachers or therapists, a close network of peers or a supportive community.**

a few comments from our readers...

"It's such a great resource for the parents I work with with kids with autism!"

"I am thrilled to receive it."

"Found great pleasure reading because it shows hopes and light in helping and supporting people with autism."

"Excellent collection of practical articles– full of helpful suggestions–I have recommended this to parents and students, and have received much positive feedback. I haven't found anyone who didn't like it."

"It is very important for parents of autistic children to get information. The Autism News is a valuable support."

"I love it, look forward to it and like to see the local news and latest info."

The current focus issue of the Autism News OC summarizes some of the exciting recent developments. We thank our authors, reviewers and supporters for all their good effort.

A small word of warning

For the last two years the Autism News of Orange County has struggled with lack of adequate financial support, since the former sponsors (RCOC, OCDE, CEC and For OC Kids) are no longer able to contribute financially. Though the work of soliciting articles, reviewing and coordinating the newsletter currently has to be done on a volunteer basis, we need some funds to provide for Web publishing, proofreading and layout. Without your donations the current issue will be the last of a series which started in 1992. We urgently need and very much appreciate your support.

With thanks to all our supporters and best wishes,

Vera Bernard-Opitz, Ph.D.
Clin. Psych, BCBA-D
Editor
Website: www.verabernard.org
E-mail: verabernard@cox.net

HIGHLIGHT

Big Button Mack

In Röderhof, a German residential facility, the daily lunch menu is announced with pictures and a talking Big Button Mack.

www.heimstatt-roederhof.de

If At First You Don't Succeed…: Teaching Persistence in Social Initiations to Children with Autism Using a Portable Video Modeling Intervention

By Denise Grosberg & Marjorie H. Charlop

For most of us, the iPod touch is a fun gadget to play with, surf the Web, or watch videos. But for a child with autism, it has the potential to be so much more: A device like the iPod touch can be programmed as a "learning toy" for important behaviors such as communication or social skills. The iPod touch can therefore have a dramatic effect on the trajectory of the child's treatment. Modern day treatment procedures for the problems children with autism continue to face are now incorporating technology such as the iPod touch.

From the first coining of the term "infantile autism" by Leo Kanner in 1943 (Kanner, 1943), marked deficits in social skills were noted in affected children. Indeed, children with autism have difficulties with many social behaviors ranging from eye contact, turn taking, and smiling to more sophisticated social skills such as social conversations. The social skill deficit that we will be focusing on is persistence in pursuing a playmate. This complex social skill involves a child asking successive peers to play after one or two attempts have failed. To illustrate, think back to when you were a child and wanted to play with others. Most people report that if one child didn't want to play, they would typically move on and ask another. This is common for most children, yet persistence in social initiations is a major deficit for children with autism.

Nathaniel Mackin having fun with his iPod touch

Persistence in social initiations can be challenging for children with autism for several reasons: Typically, these children have difficulty interacting with peers for extended periods of time; they generally make and accept few social initiations from peers; and they usually prefer to play alone (Koegel, Koegel, Frea, & Fredeen, 2001). These social deficits can determine whether a child with autism will ultimately integrate effectively with his or her classmates or remain a social outsider. The question then becomes, how can we effectively motivate children with autism to learn a complex social skill that they can practice on the playground with their peers?

The iPod touch is a clear choice for several reasons. First, the general appeal of technological devices for children with or without autism is evident in today's society. Second, we can leverage a child with autism's inherent strengths using visual media as well as the portability of an electronic device. The use of visual technology has a history of success in teaching children with autism a variety of social skills. For example, video modeling (in which child learns by observing a videotaped model) has been extremely effective in using the inherent visual strengths and interest of children with autism in technology to teach a number of socially relevant behaviors including conversational speech, perspective taking, and social initiations (Charlop & Milstein, 1989; Charlop-Christy & Daneshvar, 2003; Nikopoulos & Keenan, 2004). The progression of visual technology represented by devices like the iPod touch allows for a natural extension of this research. Today, it is possible to extend the benefits of video modeling beyond the therapy room and into the lives of children with autism.

Persistence in social initiations is a major deficit for children with autism.

The introduction of devices like the iPod touch has made video modeling methods mobile and capitalizes on the prevalence of this technology among today's children. For instance, according to a report by The AdAge Group (Bulik, 2008), an online resource for marketing and media communities, 31% of children aged six through ten now use digital music players, with the iPod and iPod touch being the most popular brand at 54%. The iPod touch ranks high as a potential learning tool for children with autism because of its portability, ease of operation, and "coolness" factor for use around neurotypical peers. The time has come to take advantage of this novel, portable visual technology platform so that it can have a meaningful impact for the children that need it the most.

In a recent study conducted by The Claremont Autism Center at Claremont McKenna College in Southern California, a Portable Video Modeling Intervention (PVMI) was used to teach persistence in social initiations to high functioning children with autism. The study was constructed based on evidence suggesting that the mobility, simplicity, and popularity of the iPod touch would contribute to participants' learning to persist in social initiations in several ways. First, it allowed children with autism to use the intervention tool independent of adult assistance. Second, because of the compact size of a portable device, the potential for learning could reach beyond the traditional therapy setting and into the community. Lastly, and arguably most important, social skills training with neurotypical peers would be less stigmatizing for the children with autism based on the popularity of the iPod touch among children today.

In our study, three children aged 6-9 participated in weekly sessions at our afterschool behavioral treatment program. Before the study began, none of the children interacted effectively with typical peers or persisted in their social initiations. For the study, the child watched three different clips visible on the screen of the iPod touch. The order in which the child saw the clips varied so that s/he did not learn to socially initiate in a specific sequence (known as a chained behavioral sequence). Instead, the child had to learn to respond appropriately to each separate social situation with his or her peer.

All the clips used four student therapists as actors. Three of the actors were engaged in play activities (i.e., board games, imaginary play with tools) in different areas of an outdoor playground, while the fourth actor approached these "peers" to play. In the

first clip, the actor approached a peer with a ball and asked, "Will you play with me?" The peer said, "Yes, I'll play with you" and the two actors began to play with the ball. In the second clip, the actor approached a peer with a board game and asked, "Will you play with me?" The peer responded, "No, I'm busy." The actor then had to walk across the playground to a second peer and ask, "Will you play with me?" This time, the peer said "Yes, let's play" and the two actors began to play the board game. In the third clip, the actor's play request was declined on her first and second social initiation attempt. This meant that the actor had to approach a third peer and ask her to play before being socially accepted.

Then it was the child's turn. The experimenter said, "Now it's time to play, pick a toy and choose a friend to play with." The child was then filmed for one session (consisting of three trials lasting three minutes each) in an outdoor play setting with at least three neurotypical peers. If a child with autism asked a peer to play, the neurotypical peer was prompted by a student therapist to either accept or reject the social initiation request. Sometimes the first peer said "yes" when a child with autism asked him to play, other times the child with autism had to approach two or three peers to be socially accepted. By varying the occurrence of a peer accepting or declining the initiation attempt over the three trials, the child with autism learned that although his social initiation to a peer may not initially be accepted, his play request could be accepted on a second or third attempt. **The child was considered to have learned the behavior once he or she was able to persist in asking up to three friends to play over two consecutive sessions** (this would equate to 100% accuracy). If the child could not successfully ask up to three peers to play over the three trials, s/he received the PVMI again.

To demonstrate generalization, the child was given one session (three trials), to persist in asking up to three friends to play in an indoor community recreation room with familiar peers and also at a community park with unfamiliar peers. After a one-month period, the child was then assessed to see if s/he remembered how to persist in social initiations. This was done to demonstrate that the behavior had been maintained over time and therefore that the intervention was successful.

All three children learned persistence in social initiations using the PVMI. Moreover, these children generalized their persistence in social initiation behavior with a minimum 66% success rate (asking up to two friends to play) in at least one untrained setting (park or community recreation room) and maintained the target behavior at follow-up one month after the intervention was over. This research provides some initial evidence of the success of a PVMI to teach persistence in social initiations to children with autism. The next logical progression in this research is to examine whether the PVMI protocol can be replicated with other skills, in other settings, and be implemented by different instructors like peers or parents

Devices like an iPod touch have made video modeling methods mobile

As new generations of children become familiar with advances in technology, researchers and clinicians have the opportunity to modify and use these tools to design effective interventions for children with autism. For example, researchers could collaborate with engineers to help adapt and create new technologies specifically targeted to better serve children with autism. There are currently many applications for the iPod touch that are designed to help children with autism learn language, communication, and social skills. Unfortunately, many of these applications are designed to generate sales as commercial products and are not grounded in evidence-based research. Since these applications are so easily accessed and utilized by the general public, **it is imperative that researchers and clinicians empirically test the effectiveness of these applications so that parents and providers can select appropriate technological aids for the child.**

Our study is one step in empirically testing a new technology that demonstrates the effectiveness of devices like the iPod touch as an intervention tool. Clearly, the ability to persist in social initiations is significant not only for the immediate social benefits for a child with autism, but also increases opportunities for friendships, responsiveness to others, and successful

adult relationships in the future. More importantly, we can use this technology to capitalize on the child's existing strengths and teach skills that can significantly impact the quality of life of a child with autism.

It has been said that one can never keep up with technology, and this is probably true. However, the point of our research is to demonstrate the usefulness of certain technologies that are motivating for children with autism and make treatment easier. Some types of technological advances designed for children with autism are so confusing that parents and teachers can't figure them out, or the child just doesn't bother with them. That is why we recommend that technology should be easy to use and evidence-based protocols developed for ease of implementation with the child and other stakeholders. Also, these technologies should be designed to increase motivation for use with the children. We look forward to new advances that keep user and child friendly technology in mind.

For further information please contact:

Denise Grosberg
Claremont Graduate University
E-mail: denise@denisegrosberg.com
and Marjorie H. Charlop
E-mail: Marjorie.Charlop@ClaremontMcKenna.edu
Claremont Autism Center, Claremont Graduate University, and Claremont McKenna College

References

- Bulik, B. (2008). Little Ears Are Big Bucks for Music Players. *The AdAge Group.* Retrieved from http://adage.com/.
- Charlop, M. H., & Milstein, J. P. (1989). Teaching autistic children conversational speech using video modeling. *Journal of Applied Behavior Analysis, 22*, 275–285.
- Charlop-Christy, M., & Daneshvar, S. (2003). Using video modeling to teach perspective taking to children with autism. *Journal of Positive Behavior Interventions, 5*, 12–21.
- Kanner, L (1943) Autistic disturbances of affective contact *Nervous Child, 2*, 217-250.
- Koegel, L. K., Koegel, R. L., Frea, W. D., & Fredeen, R. M. (2001). Identifying early intervention target for children with autism in inclusive school settings. *Behavior Modification, 25*, 754–761.
- Nikopoulos, C. K., & Keenan, M. (2004). Effects of video modeling on social initiations by children with autism. *Journal of Applied Behavior Analysis, 37*, 93-96.

Interactive and Collaborative Visual Supports for Children with Autism

By Gillian R. Hayes

ºFor the last several years, I have been conducting research on how we can use novel interactive and collaborative technologies to support the education of children with autism (*e.g.*, Hayes *et al.* 2004, Hayes and Abowd 2006, Hayes *et al.* 2010). Here at UC Irvine, I have a great team of students and research assistants focused on creating and evaluating novel visual supports for children with autism. Visual supports include everything from body language to natural cues within the environment to tools explicitly created to support individuals who may have trouble interpreting naturally occurring visual cues. These constructed artifacts sometimes use images or tangible objects to represent simple everyday needs and elements of basic communication (Cohen and Sloan 2007) and can reduce the symptoms associated with ASD (Hodgdon 1999).

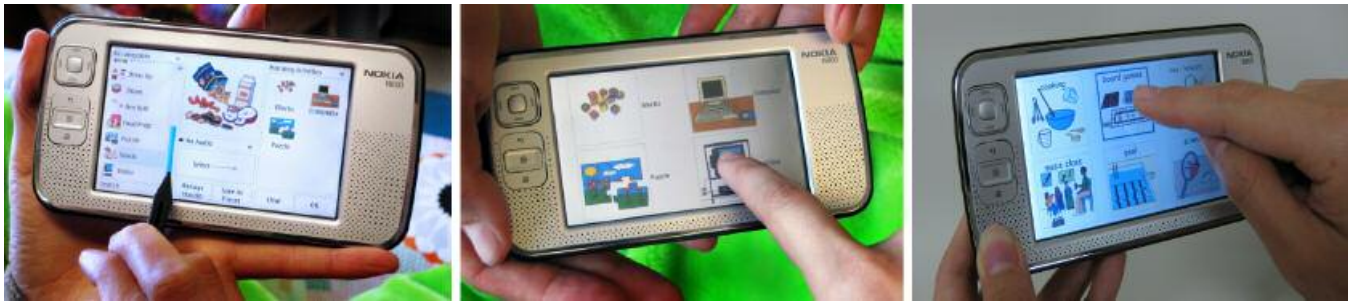
Despite their benefits, use of visual supports continue to be difficult for many teachers, parents, and other caregivers. There are significant challenges to the use of these analog, and largely paper-based, tools. First, these tools must provide support for children with ASD to improve their communication skills and social skills. Second, they must be flexible enough to support each unique child now and as the child develops. Finally, caregivers often struggle to create, use, and monitor the effectiveness of these tools. Thus, these tools must support the children for which they are designed, with minimal burden to caregiver and support the caregivers in accomplishing their goals as well.

Over the last three years, our team has spent a substantial amount of time conducting fieldwork in schools, interviewing parents, students, and teachers, and designing and developing new technologies. What we present here is just a quick sampling of some of these projects. In particular, this article overviews some of the systems we have designed and developed. We encourage interested readers to read our scientific publications to get a better sense of the research we do.

Mocotos: Mobile Communication Tools

Current analog visual communications tools vary greatly from classroom to classroom, and even from child to child. Visual communication tools take a variety of forms, from small single picture low-tech cards to advanced computational systems that perform text to speech functionality. A massive array of material, devices and methods surround these analog methods for visual communication. Unfortunately, there are many problems inherent to the cards themselves. Teachers and caregivers often struggle to manage the large number of cards being used. Likewise, they must invest significant effort to create the cards. Commercial vendors, such as BoardMaker™ sell sets of pre-fabricated cards, but these are not flexible enough to meet the needs of many of the caregivers with whom we worked, who instead often opted to create custom cards from physical artifacts or digital imagery. Finally, these paper-based visual tools often have to be used in conjunction with particular devices. Each device often serves a different purpose, operates differently, and can require custom configuration.

There are several advanced digital technologies for augmentative communication (*e.g.*, GoTalk, Tango, Dynavox, Activity Pad). The teachers and experts we interviewed listed a variety of concerns with these technologies, from usability to lack of flex-



During caregiver-initiated communication, caregivers set up communication choices using the library of "cards" and can offer as few as one choice for directed instruction or as many as eight choices for advanced children (left). The students then make their choices by pushing the appropriate card, which then invokes sound output and optional visual output (center with four choices and right with six).

ibility. Furthermore, these devices typically require professional training and expertise, making it difficult for many parents to use them at home. In our designs, we were focused on reducing the barrier to entry for these technologies by using familiar platforms, like the mobile phone, and simple end user programming to create flexible but customized interfaces.

Mocotos are augmentative communication devices that support visual communication, such as the Picture Exchange Communication System (PECS) (Bondy and Frost 2001). Our prototype system includes a portable device not much larger than popular cell phones, such as the Nokia N800. Both children and adults can use the touch screen on the device for interactions. Adults can also use a computer-based interface for organizing images, uploading new images, and generally managing the library on the device.

The primary interface metaphor consists of virtual picture cards. Mocotos come with a preinstalled comprehensive library of cards. These cards include the standard iconography used throughout PECS and other visual communication strategies. Using Mocotos, caregivers can also add custom cards to the interface by taking pictures using the built-in camera, importing digital images from a standard memory card, or by tethering the device to a computer. Cards can have multiple audio cues assigned to them; these cues may be either recorded through the on-board microphone, or be synthesized using the built-in text-to-speech function. Each card includes both a name and other customizable meta-data, which enables categorization, searching and management, providing rapid access to the library of virtual cards and real-time and *ad hoc* setup of new activities.

vSked: Interactive and Intelligent Visual Schedules

In schools, visual schedules can assist students with transitioning independently between activities and environments by telling them where to go and helping them to know what they will do when they get there (Cohen and Sloan 2007). By providing structure, visual schedules reduce anxiety and support behavior intervention plans focused on students with severe behavior problems. Because the information must be kept up to date and the schedules themselves tend to be more effective when they are engaging to the individuals using them, the traditional pen and paper "low tech" assistive technology approach can be improved.

vSked is an interactive system that augments and enhances visual schedules. The vSked system assists teachers in managing their classrooms by providing interfaces for creating, facilitating, and viewing progress of classroom activities based around an interactive visual schedule. **vSked includes three different interfaces: a large touch screen display viewable by the entire classroom, a teacher–centric personal display for administrative control, and a student-centric hand-held device for each student.** The large touch screen, placed at the front of the classroom, acts as a master timetable containing visual schedules for all students. The current activity can be activated by the teacher, which in turn starts the activity on the networked students' hand-held devices in the form of choice boards. Students

responding incorrectly or not responding at all receive a prompt to help them identify the correct response. Upon successful completion of a task, each student is presented with a reward, such as an animation of fireworks. Using a combination of shared large displays for the whole class and smaller networked displays for individual children, new interaction models are enabled in classrooms, including social and peer learning as well as more efficient and rapid feedback for students and staff about individual progress and abilities. For example, student progress and rewards are echoed on the shared display, thereby alerting students and teaching staff alike to students who may be struggling so they can be proactive with help. vSked has been in use in one school off and on for over a year. We have seen reductions in the amount of effort classroom staff have to put forth to help students transition and general acceptance of the system (Hirano *et al.* 2010). However, more work needs to be done to make it easy for teachers to use every day, including helping troubleshoot both the hardware and the software on those days when the computers don't want to work.

(left) A student sits at his desk during individual work time, while the large display indicatates that everyone is working. (top-right) The large classsroom display showing multiple children's schedules at once. In this case, the schedules are are the same, but that is not necessarily true in all cases. (button right) As individual student's vSked device showing the first activity of the day, picking a reward toward which the child will work.

SenseCam: Automatic Recording of Everyday Images

The Microsoft SenseCam provides an ideal platform for exploring the potential for automatically generated, situated and contextualized picture-based communication and therapy. **SenseCam is a wearable digital camera designed to take photographs of everyday life without user intervention. It is activated by a variety of sensors while it is being worn** (Hodges *et al.* 2006). Images of everyday activities from the perspective of the individual wearing the camera can be useful visual supports.

We developed an intervention in which children wear SenseCam for all or part of a typical day. Parents and caregivers at home can then review photographs captured during private therapies or in their own or other people's homes, and teachers and school staff can review photographs captured outside of school. Additionally, children and caregivers review images together to aid in creating visual social stories that are a part of communication and speech therapy (Gray 1998). Caregivers make use of the SenseCam viewing interface to pause the picture stream, ask questions, and so on. In this way, the recorded pictures both serve as a type of log, enabling improved communication between home and school, and as a platform through which to conduct communication therapy with the child.

Three families used SenseCam for three to five

The SenseCam form factor (left) is small enough to be comfortably worn by a child (center). A child-friendly viewing interface allows children to review photos with their parents, teachers, and other caregivers (right).

weeks each. During that time, SenseCam was used to provide a "voice" for a child who cannot speak, as well as additional information to support communication among caregivers and their children. These case studies provide information about how these types of technologies can be incorporated into everyday life, revealing the potential benefits, costs, and risks across stakeholder groups. These considerations are fundamental for the design and development of novel ubicomp assistive technologies. They also demonstrate how caregivers can creatively make use of flexible capture and access technologies for a variety of purposes.

The results of this work indicate promise for the use of novel technologies for augmentative communication and other related uses. Their applicability and potential for adoption over long-term use, however, should be investigated further. Given the creativity with which the caregivers made use of SenseCam, they might develop more elaborate interventions themselves given more time. Furthermore, the clinical efficacy of such user-designed interventions—in addition to those created by researchers, educators, and therapists—should be investigated with a larger population over an extended period of time.

iSoC: Interactive Social Compass

The Social Compass is a social skills curriculum based on cognitive and behavioral theory (Baron-Cohen 1991). This curriculum was developed by autism experts in Southern California over the last ten years and has been tested with thousands of students. The majority of the students enrolled in the Social Compass intervention are diagnosed as high functioning. The Social Compass curriculum includes 26 lessons divided into four modules: **N**onverbal Communication; **E**motion; "**W**e" Skills; and **S**ocial Problem Solving. The four modules, like a compass that guides **N**orth, **E**ast, **W**est, and **S**outh serve to "steer the child in the right direction" (Charlop-Christy, et al. 2004).

Each lesson is composed of eight steps. The materials for each lesson include instructions, a story, a visual support, a reading comprehension worksheet, a self-monitoring data sheet, and a parent follow-up page. These tools help students associate stories with visual cues to learn particular social skills. The goal of the lessons and associated materials is to help students gain a deeper understanding of the use of the newly learned skill in different social contexts.

The various parts of the iSoC system. (a) A child could use the system to identify potential interaction partners. (b) Select an avatar and configure his or her profile (c) Discover social cues when interacting with others (d) Consult detailed information associated with the social cue learned in the social compass class.

The iSoC system is a mobile-phone based augmented reality system that supports the Social Compass curriculum (Tentori and Hayes 2010). Students, both those with ASD and neurotypical, can use it to detect potential interaction partners, get helpful social cues, and tag memories to reflect later. We will be testing this application this fall and winter in a school already using the Social Compass curriculum.

A child could use the iSoC system to (a) Identify potential interaction partners (b) Select an avatar and configure his or her profile (c) Discover social cues when interacting with others (d) Consult detailed information associated with the social cue learned in the social compass class.

Conclusion

Visual supports can enable children with ASD to communicate and to learn more easily. Traditional tools, however, are challenging to create, use, and maintain. Furthermore, they provide little or no ability to document and monitor use and progress over time. Our goal in this work was to understand the design space surrounding visual interventions for children with autism so as to develop new tools that combine the strengths of the analog tools with the potential for new ubicomp solutions.

Through fieldwork, design activities, and focus group discussions surrounding these interventions, we have uncovered the ways in which advanced interactive visual supports can engage students and support caregivers simultaneously. This focus brought to the forefront specific design requirements for new assistive technologies in this space: flexibility, communication and collaboration capabilities for both children and caregivers, and caregiver support for programming and documentation of use. In an iterative process, we developed three prototype visual interventions that support these goals. Through focus group discussions with autism experts and educators, we then evaluated the prototypes and redesigned them based on this feedback.

There are still a multitude of technical challenges to be considered in this work. A substantial theme during the focus group discussions centered on the need for an end user programming environment–though the educators and autism experts did not use that particular phrasing–for caregivers to create and to share materials with one another. As these materials are developed either collectively or within individual schools and greater and greater numbers of images and lesson plans are included in the systems, another substantial challenge arises: how to catalog, search, and browse large quantities of media. We leave these challenges open and hope that in the future these tools can incorporate the best practices and algorithms from the search and collective intelligence research communities.

Acknowledgments

This work was supported by a grant from AutismSpeaks, NSF CAREER Award #0846063, an equipment donation from Nokia Research Palo Alto. We thank the participants from across multiple Orange County school districts and the For OC Kids Neurodevelopmental Center. This research was conducted as a team effort with LouAnne Boyd, Meg Cramer, Sen Hirano, Gabriela Marcu, Mohamad Monibi, David Nguyen, and Monica Tentori.

For further information please contact:

Gillian R. Hayes
Department of Informatics
Donald Bren School of Information and Computer Sciences
University of California, Irvine
E-mail: gillianrh@ics.uci.edu

References

- Baron-Cohen, S., *Precursors to a theory of mind: Understanding attention in others. In A. Whiten (Ed.), Natural theories of mind: Evolution, development and simulation of everyday mindreading. Oxford: Basil Blackwell.* 1991.
- Bondy, A. and Frost, L. *A Picture's Worth: PECS and Other Visual Communication Strategies in Autism.* Woodbine House, Bethesda, MD, USA, 2001.
- Charlop-Christy, M.H., Carpenter, M., Le, L., LeBlanc, L.A., and Kellet, K. Using the picture exchange communication system (PECS) with children with autism: assessment of PECS acquisition, speech, social-communicative behavior, and problem behavior *Journal of Applied Behavior Analysis. 35*(3), 213-231, 2002.
- Cohen, M.J. and Sloan, D.L. *Visual Supports for People with Autism: A Guide for Parents and Professionals.*

Woodbine House, USA, 2007.
- Gray, C.A. Social Stories and Comic Strip Conversations with Students with Asperger Syndrome and High-Functioning Autism. *Asperger Syndrome or High-Functioning Autism?*, edited by Schopler et al. Plenum Press, 1998.
- Hayes, G.R. and Abowd, G.D. 2006. Tensions in Designing Capture Technologies for an Evidence-Based Care Community. In *Proc. CHI 2006*, 937–946.
- Hayes, G.R., Gardere, L.M., Abowd, G.D. and Truong, K.N. CareLog: A Selective Archiving Tool for Behavior Management in Schools. In *Proc CHI 2008*, 685-694, 2008.
- Hayes, G.R., Hirano, S., Marcu, G., Monibi, M., Nguyen, D.H., and Yeganyan, M. *Interactive Visual Supports for Children with Autism.* Personal and Ubiquitous Computing. 14(7): 663-680. 2010.
- Hayes, G.R., Kientz, J.A., Truong, K.N., White, D.R., Abowd, G.D., and Pering, T. Designing Capture Applications to Support the Education of Children with Autism. In *Proc. UbiComp 2004*, 161-178, 2004.
- Hirano, S., Yeganyan, M., Marcu, G., Nguyen, D., Boyd, L.A., Hayes, G.R. *vSked: Evaluation of a System to Support Classroom Activities for Children with Autism.* In Proc CHI 2010. April 12-15, 2010. Atlanta GA USA, 1633-1642.
- Hodgdon, L. A. *Visual strategies for improving visual communication: Volume I: Practical support for school and home.* Quirk Roberts Publishing, 1999.
- Hodges, S., Williams, L., Berry, E., Izadi, S., Srinivasan, J., Butler, A., Smyth, G., Kapur, N. and Wood, K. SenseCam: A Retrospective Memory Aid. In *Proc. UbiComp 2006*, Springer, 177-193, 2006.
- McClanahan, L.E., and Krantz, P.J. *Activity Schedules for Children with Autism: Teaching Independent Behavior.* Woodbine House, 1999.
- Tentori, M. and Hayes, G.R. *Designing for Interaction Immediacy to Enhance Social Skills of Children with Autism.* Proc Ubicomp 2010. Copenhagen, Denmark. September 26-29, 2010. 51-60.

Cover Artist: Nathaniel Mackin

Nathaniel Mackin is an 8-year-old video-game aficionado who enjoys playing Lego Batman and Mario in his spare time. He is also an up-and-coming comic book writer, inspired by the book series "Captain Underpants." He loves writing and drawing pictures, especially of the two characters he's created: "Mechanic Man" and "Fix It Boy"! When Nate isn't playing video games or drawing, he is on the move, playing soccer and learning how to ride his new skateboard around town. Nate is very excited to see his technology drawing in the newsletter…he enjoys drawing almost as much as playing the latest video game with his brother, Jay!

Integrating Information Technology in Therapy and Life

By Gondy Leroy, Juliette Gutierrez, HyeKyeung Seung & Gianluca De Leo

Although ASD receives much attention in the media, there is little practical support available to facilitate everyday activities and encourage integration into the community. Existing research projects and associated funding sources focus chiefly on discovering genetic causes or evaluating the impact of drugs, genetics and nutrients. Although these are extremely valuable projects, finding a cure is probably still years away. Parents and children need help now. Furthermore, most of the existing technology interventions are intended for high functioning or older children. There is a dearth of support for the young children and those with severe autism. We aim to address this gap by focusing on an immediate technological solution for these children.

Autism is a devastating diagnosis. It is something nobody is ready for. Caring for children with autism can be overwhelming and sometimes frustrating. This is what a group of information technologists is learning as they work with parents and teachers on better information technology for children with autism. Gondy Leroy (Claremont Graduate University) and Gianluca De Leo (Old Dominion University) developed PixTalk, software for communicating for use on mobile devices (see Figure 1). **PixTalk's development was funded by Microsoft Research and it is available free of charge at www.CommunicationAutism.org.** More than 400 images can be downloaded free of charge and free of copyright from the website. PixTalk can be used in a similar fashion as a paper-based Picture Exchange Communication Systems (PECS) but it eliminates the need to print, cut, or laminate. Children choose images by touching them on the mobile device. Sentences can be built, which convey a message (Figure 1a & 1b).

Figure 1a: Operational mode. Selection of image/images

Figure 1b: Display mode. Visualization of image of sentences

Figure 1: PixTalk used to Communicate Messages

The software mimics PECS use and is intentionally very simple so that it can become a stepping stone to other software applications and to mobile phones. Similar to PixTalk are Grace apps, Look2Learn and other AAC applications in that they facilitate communication using images. They differ from PixTalk since they use the Apple iPhone, iPod touch and iPad platforms. In addition, PixTalk allows data tracking and is intended for use by clinicians who want to systematically review the ongoing learning process of multiple children.

Early evaluations showed that PixTalk can be a digital communication enabler. So far, five case studies have been conducted with teachers and therapists in Southern California and in North Carolina. The studies showed how children who are able to use PECS are also able to use PixTalk when taught by the teacher. In other cases, where a child did not yet communicate, the teacher adapted PixTalk to be used as a choice board. Figure 2 shows a sentence that was displayed by a child while PixTalk was being used in his public school classroom. The device was kept in the classroom or was worn by the teacher and anytime the child wanted to use it, he could get it from the teacher. PixTalk usage data was collected every time the child used the device.

Figure 2: Sentence displayed by child using PixTalk

Gondy Leroy (Claremont Graduate University) together with HyeKyeung Seung (California State University at Fullerton) and two graduate students, Juliette Gutierrez and Shannon Schow, are evaluating how such mobile devices can be integrated in therapy and everyday life. Dr. Seung leads autism research with young children who are non-verbal or produce few functional words.

The potential **advantages of using a digital communication approach such as PixTalk** are enormous and diverse. For example, concrete images can be used, frequently changed and shared without the need for printing or laminating. In future it will be possible to systematically collect data from many children. Based on these data therapists could fine-tune their intervention and test or develop alternative systems. The digital images used in PixTalk are concrete, but they could also be dynamic or adjusted automatically over time. A digital media provides new options to therapy that are impossible with a paper-based approach. And finally, an application such as PixTalk can be integrated with other local approaches, such as the visual scheduling work by Gillian Hayes at the University of California, Irvine (see article on pg. 30).

Even though success has been achieved in pilot studies, there are still obstacles to be conquered. The case studies show that limited technological knowledge prevents teachers, clinicians and parents from using PixTalk to its full potential. Uploading and downloading files, cropping or improving images, and synchronizing a computer with mobile devices are often new skills to be learned. Parents who are trying to cope with everyday demands often are overwhelmed by learning and training with PixTalk. Similarly, therapists and teachers often do not have the time to devote to learning new technology. And the device hardware itself also adds obstacles: keeping batteries charged and avoiding damage to mobile devices proved harder than expected.

Funding by the Allergan Foundation is bringing the group closer to offering solutions. After a short pilot study with one mother and her daughter, the group is now working with another parent and her son and evaluating how the training and consistent use of a new device can be best integrated in everyday life and in therapy. The computing skills required by clinicians are being evaluated and the lessons learned are shared with new teacher credential programs, such as the new program at Claremont Graduate University, or with those in charge of training the next generation clinicians, such as at California State University, Fullerton.

While the Picture Exchange Communication Systems (PECS) is in wide use, there exists significant controversy about its use in language learning. Linguists often have concerns about the way this system is meant to scaffold language (see also page 30).

For further information please contact:

Gondy Leroy
Claremont Graduate University
E-mail: Gondy.Leroy@cgu.edu

Juliette Gutierrez
Claremont Graduate University

HyeKyeung Seung
California State University, Fullerton
E-mail: hseung@exchange.fullerton.edu

Gianluca De Leo
Old Dominion University

Effectiveness of a Computer-Assisted Instructional Program for Children with Autism

By Christina Whalen & Laura Lara-Brady

Computer-Assisted Instruction (CAI)

CAI refers to instruction or remediation on the computer to support therapies or education. Results show that CAI has great potential as an effective intervention for students with ASD supporting pre-academic and academic skills, as well as acquisition of vocabulary or even skills in Theory of Mind or Social Problem Solving Research on CAI is not new (e.g., Panyan, 1984), yet there has been a surge of studies in the past decade (e.g., Bernard-Opitz, Sriram, & Nakhoda-Sapuan, 2001; Coleman-Martin, Wolff Hellar, Cihak, & Irvine, 2005; Moore & Calvert, 2000; Swettenham, 2006; Williams, Wright, Callaghan, & Coughlan, 2002). Some of this research indicates that CAI may be more effective than other methods in teaching certain skills to students with ASD such as vocabulary and other language skills (e.g., Moore & Calvert, 2000; Williams, et al, 2002). Furthermore, computerized techniques are showing promise in social understanding (e.g., Sansosti & Powell-Smith, 2008; Silver & Oakes, 2001; Simpson, Langone, & Ayres, 2004), and there is evidence that information learned via CAI can generalize to the natural environment (e.g., Bosseler & Massaro, 2003; Hetzroni & Shalem, 2005).

A CAI Program Based on Effective Interventions

TeachTown: Basics is a CAI program that includes the following features:

<u>Curriculum</u>

The program includes a comprehensive curriculum that aligns to standardized measures (e.g., The Assessment of Basic Language and Learning Skills-Revised–ABLLS-R, Partington, 2008) and state content standards (e.g., California). The program was designed for students with Autism Spectrum Disorders (ASD) between the developmental ages of 2 and 7 years. The curriculum includes the following learning domains:

1) Language Development;
2) Social and Emotional Skills;
3) Adaptive Skills;
4) Cognitive Skills;
5) Language Arts; and
6) Mathematics.

Each domain has 5 levels: 1) Toddler; 2) Preschool; 3) Pre-K; 4) Kindergarten and 5) Grade 1. Upon enrollment, the teacher completes a ranking questionnaire regarding the student's current performance that places each student at a starting rank (i.e. level) for each domain. The curriculum is then dependent on student performance and is adjusted for each student. Teachers can customize the curriculum to meet IEP goals, and to best suit the needs of each student.

ABA (Applied Behavior Analysis) Teaching Approach

The instructional methodologies in the *TeachTown: Basics* program incorporate common techniques in ABA. Specifically, **Discrete Trial instruction and Pivotal Response Training (PRT) are combined** as follows: The program presents objectives in discrete tasks and guides learning through prompting and reinforcement (e.g., Lovaas, 1987). The student

chooses and starts a lesson by clicking on a building in the town scene, which has lessons targeting the specific location (e.g., farm building, includes animals). **Child-choice** keeps motivation and attention to task high (e.g., Koegel, O'Dell, & Koegel, 1987). Depending on the student's previous history with the lesson, a pre-test, learning exercise, or post-test is presented. **Maintenance tasks** are interspersed throughout the exercises and occur for 20% of the trials. These tasks help the student preserve previously learned skills and keep him motivated and on task (Koegel, et al, 1989). Each trial follows the discrete trial model (Lovaas, 1987; Smith, Groen, & Wynn, 2000) where the discriminative stimulus is presented (i.e. the instructional cue requiring student response) by presenting one or more images (e.g., a happy, sad, and angry face) with a vocal instruction (e.g., "Find the person that is happy"). Next, the student responds by selecting one of the images (e.g., clicks or touches [touch screen] the happy face). A correct response elicits a positive statement (e.g., "You did it!") followed by a brief (3 second) pause between trials, and the next trial is presented. An incorrect response elicits an isolated lingering correct answer. Due to earlier findings, **negative feedback is not included because of reinforcement potential.** Students in the pilot phase seemed to choose the incorrect images deliberately and repeatedly to hear the "negative" feedback (e.g., "Try again"). For pre and post-tests, 25 trials are presented including 4 different concepts (e.g., happy, sad, angry, confused). For learning trials, 15 trials are presented (with 3 maintenance trials) targeting at least 2 concepts (e.g., happy and sad). The standard mastery criterion is 80% correct (Lovaas, 1987; Smith, Groen, & Wynn, 2000). The *TeachTown: Basics* program also requires 80% correct. All responses are coded and presented graphically.

Prompting

Trial difficulty is controlled by **within-stimulus prompting** which has been shown to result in better discrimination, generalization, and independence (i.e. prompt fading) in 1:1 trials (Schreibman, 1975) and using the computer (Panyan, 1984). When necessary, a least to most prompting strategy is utilized, where stimuli are introduced in a weak (i.e. faded images) form and gradually strengthened (i.e. saturated images). Gradually introducing distracters at the student's pace maximizes learning and minimizes errors that help the student discriminate stimuli (Perez-Gonzalez & Williams, 2002).

Reinforcement

Correct answers are reinforced on a variable ratio schedule with rewards available approximately every 4 correct (or prompted) responses (VR-4). This intermittent schedule of reinforcement has been effective for keeping responses high, particularly on the computer (e.g., Neef & Lutz, 2001). To access a reward (i.e. reinforcer), **the student chooses from 6 options that include a variety of casual video games and brief cartoons.** The student can play or watch for only 10-20 seconds and then returns to the next trial.

Automatic Data Collection and Reporting

The program contains data tracking and reporting to allow for student progress reports. Data is synchronized using a hosted data server and encrypted Internet communication allowing student usage on any computer. Such synchronization allows for consistent programming and allows for school administrators to remotely track classrooms district-wide.

Generalization

Studies have shown that motivating teaching techniques can result in generalization (Koegel, Camarata, Valdez-Menchaca, & Koegel, 1998). Additionally, research indicates that the use of **multiple exemplars** is critical (Stokes & Baer, 1977; Jahr, 2001; Reeve, Reeve, Townsend, & Poulson, 2007), specifically varying the instructions and stimuli can result in better acquisition,

motivation, and generalization (Dunlap & Koegel, 1980). In addition to providing a motivating platform for students, the program addresses **generalization** in many ways. Concepts are taught through several teaching modules including receptive identification (e.g., "Find the blue bird") or identical and non-identical matching (e.g., "Match the tiger" or "Match the color to the object"). **Varied instructions** (e.g., Trial 1 "Do you see an airplane?"; Trial 2 "Which one is an airplane?") and multiple exemplars (currently over 15,000 images and sounds) including photographs, drawn images, and animation (e.g., actions), are presented throughout the program. The stimuli in exercise trials are different from pre and post-tests to ensure concept learning rather than memorization. Generalization is also planned by teaching several concepts at a time instead of a common mass trial teaching strategy. The program also includes **off-computer activities** that encourage the application of computer learned skills, enhance understanding, and teach additional skills (e.g., communication, play, social, and motor skills).

Off-Computer Activities

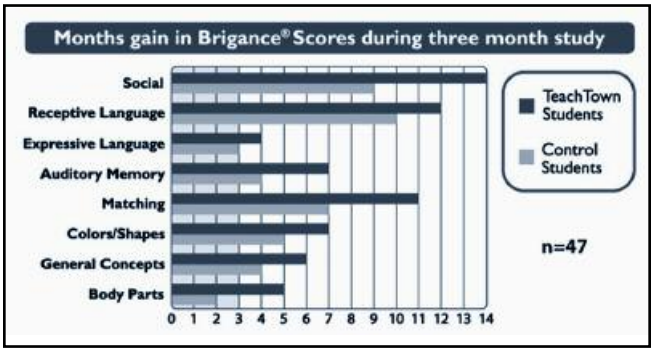
Research indicates that structured teaching and naturalistic approaches may positively affect a variety of students (Bernard-Opitz, Ing, & Kong, 2004). To provide a program that is likely to benefit different students, *TeachTown: Basics* includes a structured approach (the computer program) and a naturalistic approach (the off-computer activities). All computer lessons are tied to off-computer activities. Although PRT (Koegel, 1989) and other naturalistic approaches (e.g., McGee, Daly, & Jacobs, 1994; Rogers & Dawson, 2010) are the recommended instructional methodology, the activities are written for caregivers and teachers. There are approximately 300 activities in the current manual that cover both learning domains and developmental levels.

Research on *TeachTown: Basics*

In a parent implementation study, a multiple-baseline design (2-5 weeks) was used with eight students (4 with ASD and 4 with Down Syndrome) using the program for 2 months (Whalen, et al., 2006). **Results showed a significant change from pre to post-test scores (53% increase) for students who used the intervention.** Collateral effects were observed where students with ASD demonstrated a

Students made more spontaneous comments, showed more positive affect, and more joint attention behaviors.

105% increase in language and social behaviors on the computer compared to a play condition with their parent. Students also made more spontaneous comments (e.g., "Look, a rocket ship!"), showed more positive affect, and more joint attention behaviors (e.g., coordinated gaze). Inappropriate behaviors decreased both on and off the computer (61% decrease on computer and 44% decrease in off-computer activities compared to baseline play activities). This study offered promising results for using the program by means of parent implementation.



In a recent study, 47 preschool and K-1 students in ASD classrooms participated in a randomized efficacy study in the Los Angeles Unified School District (LAUSD) (Whalen, et al, 2010). Students were randomized by classroom with the treatment group receiving the intervention for 3 months while the control group remained in baseline (their regular educational program). Teachers in the treatment group had students use the computer program for 20-minutes and do an off-computer activity for 20-minutes per school day. Compared to the students in the control group, the treatment group showed more improvement overall on language and cognitive-developmental measures. In addition, students who used the program demonstrated significant gains on standardized measures compared to students who used the program less. These findings offer possibilities for improving early school-age skills for students with ASD in a classroom setting and offer hope for a successful program that can be teacher implemented.

For further information please contact:

Christina Whalen, PhD, BCBA-D
Co-Founder and Chief Science Officer
E-mail: chris@teachtown.com

Laura Lara-Brady, PhD
Research Scientist
E-mail: lbrady@teachtown.com

Dr. Whalen and Dr. Lara-Brady are full-time employees of TeachTown, Inc. Dr. Whalen is also a shareholder in the company.

References

- For the following references, please click here.

We are grateful for the support of this newsletter by the following organizations:

ORANGE COUNTY DEPARTMENT OF EDUCATION
WILLIAM M. HABERMEHL
County Superintendent of Schools

RCOC
REGIONAL CENTER OF ORANGE COUNTY

For OC Kids
Neurodevelopmental Center

SCHOOL OF MEDICINE • UNIVERSITY of CALIFORNIA • IRVINE

Thank You For Your Support!

The following donations for ANOC have been received. We very much appreciate all the support!

Supporter ($1,000-$2,999)

Christina McReynolds
REACT Foundation

Contributor ($500-$999)

Vera Bernard-Opitz

Friend ($25-$499)

Janis White
David Monkarsh
Michael & Suzanne Pugsley
Joseph DeCarlo, JD Property Management
Newport Language Speech Audio Center
Christopher & Christine Soriano
Anonymous
Stuart Krassner
Geeta Grover
Dr. William H. Murphey, III
Wiltrud & Gotfried Luderer S.H.
Annabel Chen
Madyson Park

Rita Eagle
Kelly McKinnon & Assoc.
Pacific Child & Family Assoc.
Rick & Helen Park
Carol & Ralph Clayman

Recent Donations

Valerie de Martino
David Monkarsh

Announcements of Support

Pacific Child & Family Assoc.
Newport Language Speech Audio Center
Kelly McKinnon & Assoc.
Joseph DeCarlo, JD Property Management
Helena Johnson & Alexander Gantman: Peers Program
Joe Donnelly: For OC Kids
Rethink Autism
Vizzle
Autism Asperger Publishing Company (AAPC)

Job Announcement

Toufic Jeiroudi

Your support is urgently needed to help ANOC continue. Please visit our website at **www.autismnewsoc.org** for more information.

Thank you!

Keeping up with Technology

By Hiroka Yamada & Debbie Ferrante

Stein Education Center is a nonpublic school in San Diego, which serves a wide range of students with autism or significant communication deficits. The speech department, in conjunction with the entire education team, has always searched for the most efficient methods of facilitating communication opportunities for the pre-verbal and significantly unintelligible population. Low-tech methods, such as picture communication, serve the needs of many students who mainly communicate to request. However, our population also includes many higher functioning students whose verbal deficits will always curtail the spoken word as a modality for meeting communication needs. Sign language is an important adjunct for many students but is not readily understood by persons outside of the special education community and can prove to be problematic when formulating complex expressive output. Previously, appropriate electronic augmentative devices, useful for the higher functioning population, have always been associated with a considerable price tag. **For a specific sector of the current special education population, technology has recently closed the gap between the need for complex augmentative communication formats and providing technology at an affordable price.**

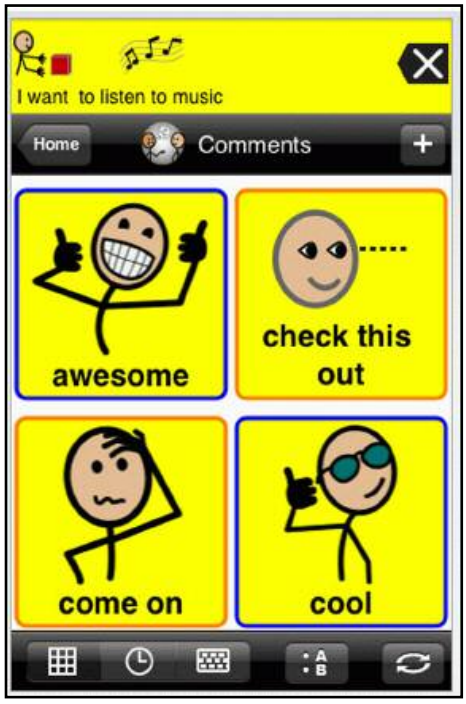
The speech department has recently explored the use of **"Proloquo2GO"** as an effective "picture to speech" augmentative program for higher functioning students. Proloquo2Go is an Alternative Augmentative Communication (AAC) application for the iPod, iPhone, or iPad, which uses the Mayer-Johnson Boardmaker symbols. Just as with the more familiar, and considerably more expensive AAC devices historically available to the special education community, students need to be able to "toggle" between numerous "pages" to make this program an appropriate choice for communication facilitation. The Proloquo2Go touch-screen format allows the student to scroll through various pages to formulate statements. It should be noted that this **scrolling feature has proved to be a "differential diagnostic element" for device selection,** in that some students do not possess the fine motor control needed to accurately scroll through page options.

In addition, Proloquo2Go provides a default vocabulary set of over 7000 items, across a variety of categories. One can adjust the vocabulary size by adding or deleting the words applicable to each student. Digital photos can be added and interface features can be altered (e.g., the number of items on a screen, item size, color, or voice output) in order to best accommodate the user's ability.

In addition to the Proloquo2Go program we also use several communication applications. Several parents at our center have applied current technology to their students in a different format using their iPhone potential. These parents, in consult with school needs, have downloaded photos of persons in their student's environ-

ment as well as places that are frequently visited by their students (e.g., doctor offices, stores). These images are used as a digital schedule to help the student understand what is going to occur in his or her day. **An explanation of activities that are about to occur can never be underestimated as a proactive behavioral strategy.**

If already in possession of an iPod, iPhone, or iPad, one can purchase this "app" for less than $200. This device is extremely affordable, as compared to the other popular AAC devices, whose prices range from about $3000 to $7000. For some of our students this may be a "good idea" for a big birthday present.



For further information please contact:

Hiroka Yamada
Stein Education Center
E-mail: hyamada@vistahill.org

Debbie Ferrante
E-mail: dferrante@vistahill.org

* There is no affiliation between the Stein Education Center and the products described in this article.

Touch2Learn Program

By Bill Thompson

The Orange County Department of Education (OCDE) Special Schools and Program Division continues to implement the Touch2Learn (T2L) program, which uses mobile devices to enhance learning, in its special education classes.

Over the past several months, numerous publications, including The Wall Street Journal and the San Francisco Gate, have discussed how the Apple iPod touch and iPad may improve education for students with Autism Spectrum Disorders (ASD). These articles continue to support what has been observed at OCDE over the past two years.

The Touch2Learn program at OCDE uses over 60 iPod touch devices with students with multiple disabilities. In addition, piloted programs are also being reviewed that implement the use of the iPad for instructional purposes. Based on preliminary results, these devices appear appropriate for several target areas.

Communicating with the iPod touch

The most common teaching target is picture exchange method communication. Rather than using paper-based drawings or photographs (i.e., picture icons) the pictures are formatted on the iPod touch. The "exchange" becomes sharing pictures on the device instead of handing a picture icon to the communicative partner.

A student participating in OCDE's Touch2Learn project shows off his iPod touch to communiciate.

In most instances, students carry their device in a "fanny pack" or in their pocket. Some students with ASD appreciate the concrete nature of the device as well as its portability. The predictability of the drawings also appears to benefit the large number of caregivers and educators in the student's life. The device may aid in creating a uniform method of use, which helps promote consistency and higher learning.

iConverse displays 6 different icons that represent a person's basic needs.

In addition to the increased educational gains, staff and parents have reported social benefits. These benefits include other peers showing interest in what the student is doing. This social quality has also been observed in the community.

Assessing behavioral data on the iPod touch

Most recently, benefits associated with T2L have also been observed in areas beyond communication. In some pilot classes, behavioral data is collected on either an iPad or iPod touch. Many data applications allow for easy methods of collecting information. Once collected, graphs and charts can be extracted which facilitates discerning behavioral patterns in students. Such information is essential for improving challenging behaviors.

Look2Learn allows 2 word sentences from several categories

Other applications for the iPod touch

While the educational benefit and interest in the student has been paramount, staff has reported that mobile devices have supplanted other resources in ease of use and implementation. For example, rather than carrying a large visual timer when out in the community, staff can now use the iPod touch to show the student how much time is remaining with a visual timer application. The difference in cost has also been noted as visual timers can cost upwards of $40 while a comparable application on the iPod is typically less than $2. In addition, mobile devices are substantially cheaper than traditional "high end" Augmentative and Alternative Communication (AAC) devices.

TOP TEN APPS in Touch2Learn

- Behavior Tracker Pro
- Stories2Learn
- iEarned That
- Look2Learn
- iConverse
- iPrompts
- Answers: Yes No
- Proloquo 2 Go
- iWrite Words
- SoundingBoard

While mobile devices certainly have a **"cool factor,"** perhaps their greatest asset is the ease with which these devices can be individualized. Some students may use it as a timer, some for communication. Well-researched concepts such as "video modeling" now appear easier than ever to implement and the number of autism-specific applications continues to increase. For example, a recent search on **iTunes for iPhone applications with the word "autism" yielded over 225 applications.**

Individualizing strategies

While its benefits cannot be disputed, the Touch2Learn group has been quick to note that this strategy may not be recommended for all students. Some students show varying degrees of attending skills to the device. In addition, communication devices and programs may require a number of cognitive and behavioral prerequisites. The tendency may be to immediately use this "cool, socially accepted" device; however, it simply may not be the best fit for the student at the moment. IEP teams throughout Orange County are continuing to examine the appropriateness.

While the results are preliminary, it's clear that there have been numerous positive outcomes from the use of these mobile devices within the Orange County Department of Education and the Touch2Learn Program. As these devices become more prevalent, the benefits appear to be far-reaching, including greatly aiding students with Autism Spectrum Disorders.

For further information, contact

Bill Thompson
School Psychologist
Orange County Department of Education,
Special Schools and Programs
E-mail: BThompson@ocde.us

Technology Employment for Individuals with Autism

An Interview with Thorkil Sonne, Founder of *Specialisterne*

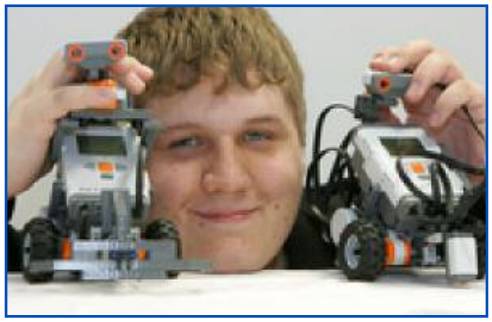
By Vera Bernard-Opitz

Thorkil Sonne

Specialisterne is a Danish company that provides employment options within the field of information technology, or IT, for individuals with Asperger's Syndrome or High Functioning Autism. The company has been very successful in creating jobs for individuals with autism, so that today even top companies employ autistic consultants.

Q: How do companies benefit from employing individuals with autism and collaborating with Specialisterne?

Thorkil Sonne: The IT field has a big need for software testing, which requires skills many people with autism excel in. While some programmers prefer to work on innovative tasks, individuals with autism often are excellent in detail-oriented, predictable routines, such as checking and rechecking the accuracy of data. Their attention to detail, perseverance and consistency are characteristics that provide a competitive advantage in this field. Our company provides workers skilled in a variety of IT services, such as software testing, data registration, quality control and information packaging for national and international IT and telecommunications companies.



Daniel Tronborg, 21, studies as part of the Specialisterne program in Denmark. "They (the psychiatrists) only started trying to diagnose me three years ago, when I was getting depressed. It was actually the best thing that could have happened to me," he said. Daniel helped launch Specialisterne Scotland in Glasgow.

Q: What are prerequisites for successful employment in this field?

Thorkil Sonne: Individuals with autism often have very specialized intelligence. They may be good in spotting differences and mistakes; they may be interested in technical processes, or they may be good at programming. Additional predictors for success are the motivation for a market-driven environment, personal stability and problem solving skills.

Q: How are individuals with autism trained in your company?

In the beginning of our training, many young individuals with autism are shy and do not feel confident about their skills. It helps that our company has an excellent environment where they can feel secure, develop friendships and even show a lot of empathy towards each other. During a five-month training period we assess the profile of skills of each individual trainee and match it to potential job options. One of the testing instruments used is Lego's Mindstorm, an advanced Lego building kit incorporating electronics and software which allows users to develop testing and problem-solving skills that can be used in software and website analysis. Historically forty percent of our assessment activities have resulted in employment as an IT consultant in Specialisterne.

Q: What are some facts about your company?

Thorkil Sonne:

Specialisterne is a for-profit company, which currently employs 33 consultants with autism and 17 typical employees. All employees are paid competitive salaries and are considered specialists in their field. Our headquarters is located in Ballerup, Denmark. We recently added a Youth Education Center where 25 individuals with autism between 16 and 25 years are trained. These students cannot follow traditional

"My personal goal is to enable 1,000,000 jobs for specialist people."

youth education programs. Over the next year this center is expected to grow to 40 students. At the center, experienced consultants with autism from Specialisterne's business department assist in the training and act as role models.

Q: What are the next steps?

Thorkil Sonne: Over the next couple of years we plan to expand our services to Iceland, Ireland, Germany, Poland and hopefully the US. We currently have contact to 29 states in the US. While our center in Denmark is a for-profit enterprise, overseas centers could have non-profit status. Knowledge centers should be funded for at least five-year periods through social impact investments, donations and grants.

Q: What are your visions?

Thorkil Sonne: My personal goal is to enable 1,000,000 jobs for specialist people. I therefore am in the process of bringing this vision to the international level. I want to ensure that individuals with ASD are given an opportunity to be seen as valuable members of all societies. I am confident that we can get there: we can build a world free of unnecessary barriers, stereotypes and discrimination. To accomplish this I need a lot of support.

For further information and videoclips, please visit:
Website: www.specialistpeople.com

Grace App

By Lisa Domican

To quote my recent interview by Jennifer O'Connell for an Irish Sunday Paper:

"There is no single moment when you realize your child is different."

For me, the understanding that my son, Liam, was not like other children, dawned over a thousand tiny moments.

Liam was a bright, happy and alert little boy and everyone loved him. He was obviously clever; leaning out of his stroller at 18 months to look at road signs.

But sometime between his second and third birthdays, my husband started asking questions. Liam wasn't talking, he wasn't looking at anyone, he wasn't answering to his name – he was leading us to the cupboard to get a drink, but not asking for it.

He reminded us of our nephew who lived in England, whom we had met and spent time with on family holidays before we had children. I resisted it at first. Liam was perfect in my eyes, and he would catch up on his own.

Eventually, my husband convinced me to bring Liam to visit our public health nurse and we got a referral to a pediatrician who we started seeing regularly every few months.

After 6 months we demanded our diagnosis of autism, because the old doctor we were seeing felt that that there was still a question mark, that we should give it "more time."

However, we knew by then that we needed to get on to waiting lists, and the diagnosis allowed us to get him into the Autism Intervention Course at the Autistic Association of Queensland in North Brisbane where we lived at the time.

Doubt and Denial still reigned. Even after Liam started at the center, I was still hoping that maybe it was Aspergers or something else. The sign over the door said "State Autism School," but one day I asked Liam's teacher – "is there any doubt?" And she said, "No, there's no doubt. He is ***very*** autistic."

The next few years passed in a blur, as we tried to secure services and struggled to cope with Liam's increasingly difficult behaviour, my attention was divided between Liam and Grace, who was born 20 months after her brother.

Gracie was breech, and delivered by a planned c-section at 38 weeks - "before she was ready," in my opinion. The mid-wives had tried to turn her but she was tucked up so tightly under my ribcage, there was no chance of a natural delivery. A sign of the tenacious personality that was to come!

The day she was born and put onto my chest, she stayed there for the next two years. She wouldn't sleep on her own, wouldn't stop feeding, and I thought it was because she'd been forced into the world too soon.

Of course to me, Grace was fine. It took my mother to say, "Look at her, Lisa. She's not interacting. She's not looking at anyone. She won't wean." And I suppose I just knew. So off we went to the pediatrician again, but this time it was water off a duck's back – I knew why we were there and what was coming.

In the waiting room there was a wooden stacking toy with colored disks that you put on to each peg. I moved a red disc to a peg where there were blue ones and Grace went ballistic. And in the Doctor's office Liam helpfully rearranged a set of antique surgical instruments – it didn't take much for Dr B to write the letter of referral this time.

Shortly after this we moved to Ireland, I started Liam on Picture Exchange Communication under the instruction of the teacher in the Autism Unit he attended. We started using it when he was four and were using it for about two months, when he suddenly started not just speaking, but reading too. The idea is that you build up a book of cards stuck in with Velcro to help them communicate, but I don't think we'd got past two pages of cards with him when we were out somewhere and he said "I want Toilet" independently- that was a majorly good day!

For Grace, however, the process of learning to communicate was much slower. I had to do it all myself as there was no provision for speech therapy for Grace in the State Autism Pre-school that she attended here in Dublin. I approached PECS very methodically, did the two day course, followed the manual, bought the cd-rom, made several different sized books for staying in and going out.

I took my data and learned everything there was to learn about it. And kept it going, for the next 6 years. Grace was extremely good at communicating her needs with PECS but she relied on me to add to her vocabulary with new cards. As a mom with two autistic kids, there was often a delay in taking, saving, printing and laminating those new pictures.

As a result Grace was amazingly skilled at getting what she wanted using shapes, colors and numbers. She could put together a picture sentence that said, "I want 8 black triangle toast" meaning she wanted Vegemite Spread on toast cut into 8 triangles. But she couldn't say "I want Vegemite."

Before: Grace's PECS book full of symbols

At the age of 6, thanks to a home ABA program that we funded with bank loans; (we told the bank manager it was for "Home Improvements" and it was, kind of) Gracie started to make sounds when we were playing a "what animal" game and finally started to try and say words.

It was still difficult for most people to understand her approximations, she would say "Dink" for drink or "Tote" for toast. But it was enough to encourage me to continue to try and develop her vocalizations, while maintaining her picture communications as a prompt and back up for when people could not understand her version of a word.

And bit by bit she improved. "Tootar" became "Cootar" - meaning Computer. **And I will never forget the day I heard from the back seat of the car her first independent sentence "I want green crisps!" - I drove across three lanes of traffic to get into a service station and buy her five packets of crisps.**

During this time I had joined the IAA "Irish Autism Action" which is a Parents Advocacy and Support Group. In 2007, I was at their Annual General Meeting listening to an address by telecoms company O2Telefonica who supported Irish Autism Action. The discussion turned to ways technology could help children with autism, and I asked, "what about the iPhone?" One of the Social Responsibility Officers from Telefonica actually had one, (the iPhone had only just arrived were in Ireland) and promised to get me one if I thought it might help – it was couriered to my house a few weeks later.

Now: Grace App

By this time, Liam and then Grace had been accepted into a Privately managed ABA school. We had waited 5 years for a place but it is no exaggeration to say it changed our lives. No more after school home based ABA tutors. No more stress about lack of clinical support services in their State autism school. No more poorly trained unsupervised "care" staff actually exacerbating behavioral issues. I was suddenly unburdened and ready for a new project!

That summer, Gracie and I got to work, getting pictures onto the iPhone and using it to request treats in the supermarket. But we couldn't put them in order, and that was very frustrating, because the whole point of the picture exchange system is to put words in sequential order and build sentences that prompt speech.

I realized that I needed help, and luckily found a newspaper article about a gifted iPhone app developer, Steve Troughton-Smith. We communicated via Facebook and finally met for the first time at the start of 2009. I brought along all Gracie's Picture Books and drew a big diagram on the back of a shopping bag. From that Steve created a prototype which he loaded on to my iPhone, which Gracie used expertly. The Big Picture Exchange Book stayed home to gather dust and the iPhone came out everywhere with us. I started using the device's built-in camera to take photos of things that Grace wanted, which I stored on the iPhone for next time. Grace watched me doing this and one day I caught her holding the phone, trying to take a picture of a toy she wanted on ebay. She understood that it if the photo was in the phone, then I knew she wanted it! I told Steve about this and he incorporated the photo application into the app which we then tested with four other children in Gracie's school. We were approved by iTunes late on the evening of March 11th, 2010. The Grace App was born.

The thing about Grace App is that it won't do all the work for you – it's not a talking box for the child, and it doesn't let the parents off the hook either. You have to work with the child to help them learn to communicate independently. We are incorporating all our feedback in a major update – putting the "add pictures" button into each category so that caregivers and users can sort their customized pics.

Grace App is also available on the iPad and iPod touch, and users can switch between devices with a single purchase with free upgrades as we do them.

My experience has been developed using the iPhone but now that iPod touch has a camera, I can see that taking over as the entry level device. I'm also looking for a lot more feedback on iPad usage, as they have only recently arrived in Ireland. **Grace App was included in an online listing of the Top Ten iPad Apps for Autism recently and has been featured in the Autism Hangout "Apps for Autism" video series.** A huge honor as you can imagine.

Recently, Grace App was chosen as the Best Mobile Application in the Irish Web Awards. We also won a United Nations World Summit Award for Mobile Content in the m-Learning and Education category. It was also another chance to encourage people to donate their old iPhones when they are upgrading to MyCharity "I want my iPhone for Autism" campaign, where we give iPhones to underfunded Autism Schools and Services.

But there have been other, less tangible – but no less significant - rewards too. One of the things you miss out on as the mom of autistic kids is what's known as "shared attention": that stage where they start saying "Look Mom." It always felt to me like they only communicated with me when they wanted something. But with the Grace App, my daughter suddenly started showing me things – not because she wanted them, but because she wanted to share them with me. And others have told me of similar experiences. That was very special, that made it all worthwhile.

© Lisa Domican, Grace App Communications
E-mail: Graceappforautism@gmail.com
Website: www.graceapp.com
Phone: +353860486249
Graceappforautismoniphone.blogspot.com

This article includes anecdotes used with permission from an interview I did with Jennifer O'Connell for the Sunday Business Post, first published October 24th, 2010.

E-mail: oconnell.jen@gmail.com ♥

Recent information regarding PECS

By Nicole Gage

While the PECS has been demonstrated to be very helpful in aiding children with autism with their social and communicative behaviors, its role in scaffolding speech and language acquisition has not been elucidated. While some parent statements and small case studies have reported an increase in the amount of spontaneous speech in children after introduction of PECS, a recent large meta-analysis has found that these anecdotal and/or small sample studies do not fully reflect what is actually occurring when we look at larger samples. Over the meta-analysis of more than 120 children using PECS, results showed that gains in speech were small. Thus while PECS can be quite effective in reducing frustration and increasing communicative behaviors in children who are minimally verbal, it has not been demonstrated to actually aid the language acquisition processes that are key to language development in early childhood. Michelle Flippin Stephanie Reszka Linda R. Watson (2010) "Effectiveness of the Picture Exchange Communication System (PECS) on Communication and Speech for Children With Autism Spectrum Disorders: A Meta-Analysis." American Journal of Speech-Language Pathology Vol.19 178-195.

Nicole M. Gage, Ph. D.
Department of Cognitive Sciences
University of California, Irvine ♥

Rethink Autism

By Vivian Bottino

I am a teacher, the parent of an autistic son who has graduated from college and a consultant for home programs for autistic students. Twenty years ago when my son was diagnosed, there was not much help available for parents. I remember once a month a group of moms would pool our money and have a senior therapist travel down from Dr. Lovaas' clinic at UCLA to guide us for an hour through the next month of intensive discrete trial therapy. That averaged about 10 minutes a month per child to get ideas, lessons and support from a qualified person.

Wow, have times changed! **There now is a web-based autism treatment program called "Rethink Autism"that can complement professional supervision.** It allows parents to view ABA curriculum and see what might be appropriate for their child. Video based lessons demonstrate the different steps of learning. Over 1,200 video exercises are available on video, which make it possible to record the child's results as well as to track his progress. As students master skills, new lessons are added and generated automatically. There is a simple program to use with a progress tracking option with easy-to-read bar-graphs for each of the child's current lessons. Rethink Autism has a curriculum library with categories such as pre-academic, academic, social/emotional, daily living, motion skills, play/leisure, expressive and receptive language.

I especially enjoyed the demonstration videos before starting to teach a lesson. While I have taught children with autism for more than 20 years, it is still important to see others teaching comparable lessons in a slightly different way. **Some colleagues have argued that the demonstrated style of interaction lacks social reciprocity, but in all cases demonstrated training ideas should be matched to the individual child and his optimal learning atmosphere. We can all learn from each other and having a structured model should be helpful, especially for young parents and new teachers in the field.**

Most of the lessons build on each other and demonstrating a continuum of learning is very important. The website has a detailed curriculum that helps parents and therapists know what drill to do next.

Along with online help Rethink Autism also has consultants to help troubleshoot when parents need 1 to 1 help with their child's programs.

While we have to keep in mind that currently research on online training programs for children with autism is rare, programs like this may be able to help parents who do not have access to qualified professionals in their vicinity. Especially new parents, paraprofessionals and young teachers or therapists may want to consider registering for the one-week trial to see if this will help complement their needs.

For contact and further information

Vivian Bottino M. Ed.
Consultant Pacific Child and Family Associates
E-mail: bottino2@cox.net

Assistive Technology: From a Parent's Perspective

By Jennifer Wienick

Before our son Nate was diagnosed with Autistic Spectrum Disorder, or before we even had the language to describe his "eccentricities," my husband and I were certain, without any ounce of a doubt, that Nate could watch TV like no other baby. At 6 months old, Nate would stare intensely at the screen for long periods of time, following the stories of Baby Einstein and movements of each animated character or object that appeared. He would cry at the sad parts, laugh at the funny parts, and remain in trance for long periods of time. Nothing like television, portable DVD players, or computer screens, could capture Nate's attention or keep him seated long enough to complete a task.

Friends and family members would point out Nate's visual passions and express a range of opinions; some were impressed by his inclinations towards animated characters and stories, others were concerned, especially grandparents who believed the age-old myth that television "rots your brain." **As his parents, we believed his visual preferences were just a part of Nate's character. We accepted it, and used his favorite movies, games, and books to our advantage in gaining his enthusiasm, expressive language, and attention.** The portable DVD player allowed us to have family meals at the table, with Nate sitting quietly, watching and eating. He would also be able to sit happily during long road trips or airplane flights or doctors' appointments, anything that would otherwise pose a major threat to the peace of the family. And even though boundaries in duration needed to be set, and repetition was a bore for the rest of us, a favorite episode of "Thomas the Tank Engine" could turn any bad moment with Nate into a good one.

After Nate entered a public school setting, and we became more knowledgeable of his ASD, his technical aptitude became a window into his cognitive strengths. Early exposure to educational and reading websites taught us that Nathan exhibited hyperlexia, "a syndrome characterized by intense fascination with letters and numbers and an advanced reading ability." With the ability to read at age three, a whole new world opened up for Nate. Using visual aides like books, social stories, websites, or PECs (Picture Exchange Communication), gave us a forum to teach Nate more efficiently. It also negated any previous memory of a bad experience at school, and made it easier for teachers and parents to connect with Nate. **When he has difficulty focusing, transitioning, or sitting on the potty, we pull from our "bag of visual tricks" to communicate, redirect, and reward.**

At Nate's IEP meetings, we learned that we are permitted by law to draw upon any tool or "assistive technology device" to further any of his academic, behavioral, or cognitive goals. According to an AT Resource link on http://Child-Autism-Parent-Cafe.com:

> The Individuals with Disabilities Education Act Amendments of 1997 defines assistive technology device as "any item, piece of equipment, or product system, whether acquired

commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability" (IDEA, 1997, 20, USC, Ch. 33, Sec. 1401 [25] US) The level of guidance and support necessary for each student in the classroom may vary greatly; the student may need anything from physical, verbal, or visual prompts to high-technology devices and services. "No" technology and "low" technology devices do not require electronic equipment and may need only a simple accommodation, are usually readily available, and are cost effective; "high" technology requires a high-maintenance electronic system and, hence, is more costly (Purcell & Grant, 2002).

The website also provides a useful list of AT devices, ranging from a pair of reading glasses or a simple PEC Board to expensive hardware and software. In these tough economic times, limited school and home budgets make it hard to purchase the more expensive AT devices. After an extensive search for affordable or free resources to maintain our home program and facilitate communication, here are some things that I found:

- Free Resources: There are many free educational websites that parents can use to teach reading, math, and language skills. Such websites include www.starfall.com or iknowthat.com. If you visit the Orange County Department of Education website at www.ocde.us, there are links to many other educational websites for homeschooling or entertainment for all age groups. Consider your local library as a primary supplement to any school or home program.
- Helpful Product Websites: Check out a variety of useful AT devices at http://www.nationalautismresources.com/assistivetechnology.html. Also, check out local bookstores or teaching supply stores for great finds and inexpensive learning tools.
- Hardware: Ideally, every child with ASD or speaking difficulties could afford an iPad and software like Proloquo2go (visit www.Proloquo2go.com for more information on this new Augmentative and Alternative Communication software). Yet, spending large amounts of money on the hottest visual aide software isn't always necessary. Smaller, less expensive technical devices like Nintendo DS or Leapfrog can serve as a tool for helping your children focus and practice their visual learning methods.
- Create Your Own AT device: Drawing a PEC or picture can be a very valuable tool in helping your child know what to expect, creating structure, and eliminating anxiety. Get creative and find images that your child responds positively to, and incorporate them into your visual aides. You can laminate these pictures and use them again and again, at no cost. Also, use readily available programs like MSWord or Photoshop to create visual aides on your home computer.

The rewards of using AT devices and visual aide technology comes after a lot of practice, trial and error, and consistent implementation into your home and school programs. Boundaries need to be set, as any behaviorist or ABA therapist would tell you. **But as we've learned with Nate, as long as your child is engaged in their own learning process, improvement in communication will follow.** As parents, you will feel gratified in having tangible tools to help your special needs child, and as a result, your child and family will be happier and more successful in their education and home programs.

For further information please contact:

Jennifer Wienick, parent
E-mail: jwienick@gmail.com ♥

Editor's Note: Not all children need be "visual" to benefit from AT. Parents interested in AT should contact colleagues who can offer individualized advice.

AAPC Publishing is proud to support the Autism News of Orange County

AAPC prides itself on being your first source for practical solutions for those who live with autism, are affected by autism and who want to learn more about autism. Our cutting-edge, research-based materials cover:

- Social skills
- Sensory issues
- Behavior interventions
- Solutions for parents and teachers
- Solutions for adolescents and adults
- and more!

AAPC PUBLISHING

Your First Source for Practical Solutions for ASD

www.aapcpublishing.net • 877-277-8254 • aapcinfo@aapcpublishing.net

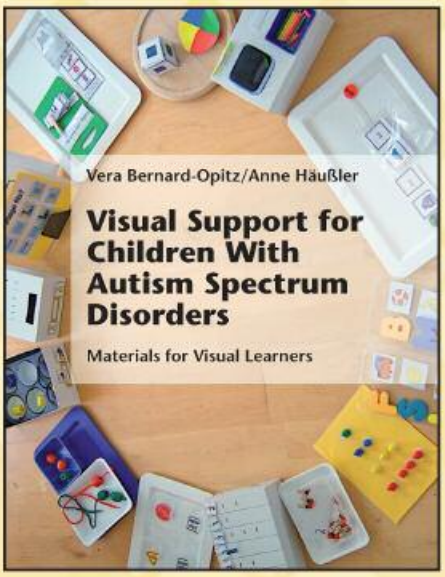
Coming This May from AAPC Publishing! NEW Must-Have Resource

Visual Support for Children With Autism Spectrum Disorders

by Vera Bernard-Opitz and Anne Häußler

Code: 9065 Price: $34.95

Combining their years of experience working with individuals on the autism spectrum, both here and around the world, authors Vera Bernard-Opitz and Anne Häußler bring teachers and other professionals practical ideas and teaching methods for offering visual supports to students with autism spectrum disorders and other visual learners.



With hundreds of colorful illustrations and step-by-step directions, this book lays the foundation for how to structure teaching environments, as well as offers countless examples of activities for students, ranging from basic skills, to reading and math, to social behavior.

Pre-order today and save 20% by calling 1-877-277-8254 or ordering online at www.aapcpublishing.net.

Psychology/Education

We are located in Abu Dhabi (United Arab Emirates) and are currently looking for an honest and reliable person to work with our 17 year old son with autism. He attends school from 8:30am-3:00pm 5 days per week. We require a person with an interest and some knowledge in autism, who can work with our son in the afternoons, evenings and weekends. The job involves a combination of structured 1:1 teaching and natural environment training and outings. Training and supervision will be provided and interested applicants must be willing to follow behaviour intervention plans that target the reduction of challenging behaviour. Self-contained accommodation will be provided.

Applicants must have the following:

- Strong Communication Skills
- An interest in or experience working with children and/or young adults with developmental disabilities
- Be prepared to commit for a period of 9-12 months
- Good tax free salary will be provided (discuss on application)

Please e-mail to: tjeiroudi@hotmail.com

www.autismnewsoc.org

If you have a comment about our newsletter, we'd love to hear from you. Please send all comments to verabernard@cox.net.

The Autism News is pleased to acknowledge support of our publication

by including the name, logo and announcements of individuals or companies. The size and location of the message will depend on available space.

Suggested announcement of support are:

- $50.00 for business card size;
- $80.00 for quarter page;
- $150.00 for half page; and
- $300.00 for full page messages.

Announcement of job offers are also possible at:

- $160.00 for quarter page

For further information please contact the Editor at verabernard@cox.net or Joel Miller at jdmiller@uci.edu.

Announcements are not endorsed by the Editor of ANOC nor the involved companies.

a few more comments from our readers...

"Love it, clients in the waiting room love it and we keep old issues out for their review."

"Excellent in each subject. As a parent of an autistic child, every issue is very important and interesting for me!!"

"Thank you for providing this wonderful resource!"

"ANOC has been very instrumental in sharing the most current information regarding ASD with families and professionals in the community."

For OC Kids Neurodevelopmental Center is a founding partner and long time supporter of ANOC.

Since September 2001, For OC Kids, has played a unique and major role in providing comprehensive, multidisciplinary medical services for Orange County families with children who have autism, ADHD and other developmental disorders. We have been able to do this with ongoing support from the Children and Families Commission of Orange County.

Since opening our doors, For OC Kids' program has resulted in the following community impact:

- 5,774 children received initial comprehensive medical evaluations from a pediatric neurologist or developmental pediatrician
- 17,671 children were provided follow up visits for treatment recommendations, care coordination, advocacy and medication management
- Over 1,200 family members attended our educational series providing an "overview of autism" or our introduction to the special education process

For OC Kids enters its 10th year with the strategic vision of expanding our program to include comprehensive multidisciplinary care and services to all Orange County children with autism, ADHD and other developmental disorders from birth through 21 years.

We look forward to the ongoing support of the Orange County community in achieving this vision!

Visit us at www.forockids.org

Upcoming Staff Development, Conferences and Parent Trainings

Throughout the school year, there are several opportunities for continuing education and support that will be offered by various organizations. The **Regional Center of Orange County (RCOC)** and the **S.U.C.S.E.S.S. Project of Orange County** strives to provide affordable fees to both families and staff. Each session has a specific focus, some pertaining to early interventions, some with more of an emphasis on the older aged student. **Registrations for those outside of Orange County may be limited, therefore call early!**

PLEASE NOTE: You can access online information about sessions (hosted by the **S.U.C.S.E.S.S. Project of Orange County**) at http://sped.ocde.us/cses/Autism/cc_ap/sd/cbs.htm

Date/Time/Place	Topic/Speaker	Developmental Level	Approximate Fee	Contact
March 4, 2011 8:30 AM – 3:30 PM OCDE	"Good Intentions Aren't Enough"- Social Thinking & Transition Issues *Michelle Garcia Winner*	Upper Grades, Secondary and adults	$70	S.U.C.S.E.S.S. Project (714) 966-4198
March 16, 2011 8:30 AM – 3:30 PM OCDE	"Introduction to the SCERTS Model" *Emily Rubin*	Developmental ages – toddler to elementary	$70	S.U.C.S.E.S.S. Project (714) 966-4198
March 17, 2011 8:30 AM – 3:30 PM OCDE	Orientation/Overview to the SCERTS Model *Emily Rubin*	Developmental ages – toddler to elementary	$25	S.U.C.S.E.S.S. Project (714) 966-4198

Locations: ***OCDE*** = *Orange County Department of Education – 200 Kalmus Drive, Costa Mesa, CA 92628*

Does not include other agencies' information…. Only reflects the S.U.C.S.E.S.S. Project

a few more comments from our readers...

"I have enjoyed reading your publication. It has been very informative to me and my family."

"Useful articles, and reader friendly."

"I have always been impressed with how readily people have been to share their stories of success or failure in the ANOC. Long may it last."

"Very useful publication for information and support. Look forward to reading it."

"Informative, helpful with public education; good resource for those on the autistic spectrum and learning disabilities."

"Very informative."

"I read every issue and look forward to them."

"It's a good summary/resource for professionals working with children with ASD."

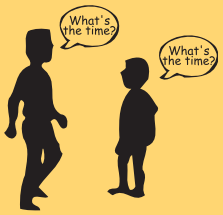
"Good info, hope you can keep it going."

"Very useful in m professional capacity as a councilor in schools' psychological/pedagogical office, Bergen, Norway."

"Provides me with information, ideas, resources, etc. in an easy to read format."

SOME EXAMPLES OF AUTISTIC BEHAVIOR
ALGUNOS EJEMPLOS DEL COMPORTAMIENTO DE PERSONAS CON AUTISMO

Avoids eye contact
Evita el contacto visual



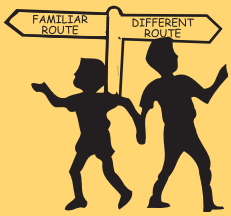
Copies words like a parrot ("echolalic")
Repíte las palabras como un loro ("en forma de echo")

Shows preoccupation with only one topic
Demuestra preocupación/interés en solo un tema/asunto

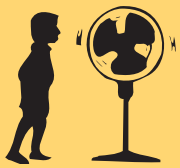
Lacks creative "pretend" play
Carece el juego creativo

Shows indifference
Demuestra indiferéncia

Displays special abilities in music, art, memory, or manual dexterity
Demuestra capacidades especiales en musica, arte, memoria or destreza manual



Does not like variety: it's not the spice of life
No demuestra interés en variedad



Shows fascination with spinning objects
Demuestra fascinación con objetos que gíran

Shows fear of, or fascination with certain sounds
Demuestra miedo de/ó fascinación con ciertos sonidos

Laughs or giggles inappropriately
Risa/reír inadecuadamente

Shows one-sided interaction
Demuestra interacción que es unilateral

Some Examples of Autistic Behavior
Algunos ejemplos del comportamiento de personas con autismo

- Difficulty with social interactions.
  Tienen dificultad para socializar con otras personas.
- Problems with speech.
  Tienen problemas con su lenguaje.
- Disturbed perception.
  Tienen una percepción anormal de los sucesos que acontecen a su alrededor.
- Abnormal play.
  Su forma de jugar es anormal.
- Resistance to change in routine or environment.
  Se resisten a cambios en sus actividad rutinarias ó a su medio ambiente.

Does not play with other children
No juega con otros niños