

Closing The Gap

Solutions

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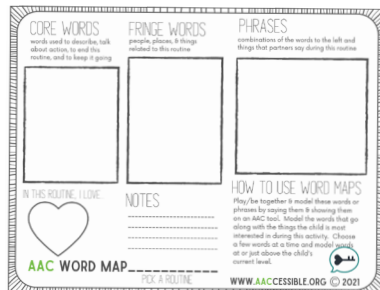
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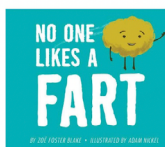
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The Power of Joy in AAC Learning

Summary:

This article will walk readers through the importance of student motivation and engagement in the language learning process with AAC. A combo of personal narrative and “how-to”, this article will begin by building a case for motivation and joy as essential to learning, followed by the provision of key tools and strategies to discover what motivates students who seem entirely unmotivated and to enhance interaction and language skills with that joyful root at the center.

Joey was an energetic, six year old boy on the Autism spectrum who came to see me weekly for therapy sessions. Joey spoke a little, although unclearly and inconsistently. He used a communication book (a little) at school, although not usually without prompts and most often, to request food or toys. Our start was a rocky one. Initially, Joey wouldn't leave the waiting room to join me in our therapy space; so, we did our sessions in the waiting room. He played with the sliding bead, busy box, then the wall toys, then climbed the chairs, then the table, then back to the busy box. I frantically moved around the room in pursuit

of his attention as he traversed this circuit, only to notice him flee when I got within a foot of his play space. Eventually, Joey would join me in the therapy room, but only if I led him with the promise of tablet time and if his dad came along. I was cool with that for a while, at least we weren't in the waiting room any more. But during sessions, if not engaged in solo viewing of media on the tablet, Joey seemed to be more focused on getting out of the room than on playing with me. His use of dad as a jungle gym and his focus on beelining it out of the room made engaging him in any therapeutic activities feel impossible. I found myself thinking



TANNALYNN NEUFELD MS, CCC-SLP Tannalynn Neufeld is a licensed, ASHA certified speech-language pathologist with over 15 years in the field working with complex communicators and their families. Tanna has presented nationwide on AAC and other topics related to complex communication via professional and parent development workshops and webinars. She is the founder and director of AACcessible.org, a nonprofit organization driven to improve global access to AAC through education, advocacy, awareness, and action. Clinically, Tanna has extensive experience supporting the youngest and most emerging communicators in home, clinic, and hospital settings. In her private work as an AAC consultant and coach, Tanna provides donation-based and pro-bono, tele-AAC evaluations and coaching programs to support access to AAC technology and services for all. She has developed comprehensive training programs to enrich pre- and post-service education in the field of AAC for professionals at The AAC Academy, an online learning hub for everyone wanting to improve their confidence in working with complex learners. In addition, she strongly believes that parents and caregivers are at the core of positive, long-term outcomes for children with complex needs and strives to develop resources to support families on their AAC and AT journey. Tanna has a personal passion to see the barriers that remain for AAC access lowered. Living with disability herself, she realizes the positive impact that assistive technology and support services have on individuals with differences and is grateful to dedicate her professional and personal endeavors to realizing a world that opens possibilities for everyone.



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“What do I do? This sweet boy just doesn’t seem to be motivated, so how can I possibly help him learn to communicate?”

Of course, that voice in my fearful heart wasn’t telling the truth. After all, every child is motivated to learn. Motivation is not present or absent, but develops over a lifetime. In fact, motivation starts developing at birth, as an intricate dance between internal drives and external responses from those who care for us and with whom we interact. Children are motivated to avoid things that have previously caused harm or anxiety (emotion experts call this, avoidance), and to lean in further to those experiences which have resulted in feelings of joy and peace (in brain-based emotion jargon, this is called approach). Joey was demonstrating both approach and avoidance in the story above, and it was up to me to get to the root of each in order to create an engaging, meaningful, and effective learning experience with him. But how?

THE ROLE OF ENGAGEMENT AND JOY IN LEARNING

I was witnessing more avoidance from Joey than approach, and it was clear to me that I wasn’t recognizing or facilitating experiences that brought him joy. Perhaps his past experiences in therapy were boring, too adult-led, unpredictable, or even overwhelming to his sensory and emotion systems. I needed to change whatever I was doing (or not doing) to trigger that “fight or flight” response if I was ever going to gain his trust. I knew I needed Joey to be engaged in order to teach him new things. But what was engagement really, and how might it look for a child like Joey?

In educational settings, the level of student engagement is defined by the degree of *attention, curiosity, interest, optimism, and passion* that a student demonstrates when they are learning, either on their own or with a teacher. In turn, this level of engagement directly impacts the degree of intrinsic motivation to learn that each student develops over time. Notice the intrinsic nature of these elements of engagement (attention, curiosity, interest, optimism, passion). These fires are *within* each student and their flames fanned by carefully curated, individualized, and emotionally meaningful learning opportunities. So to engage Joey, I needed to understand what grabbed his attention and kept it; what he was curious about and interested in; and ultimately, what his passions were. To foster optimism about learning in Joey, I needed to perceive and interact with him in a way that presumed potential and facilitated his experience of success with the skills I was attempting to teach.

Joey wasn’t entering our sessions with the same agenda as I was. He didn’t care much about all the goals I had for his communication—he just wanted to experience joy. I use the word *joy* here to encompass the idea of a pleasurable state that exists in and of itself, with no external agenda and regardless of outcomes. We may offer external responses (such as social reinforcement) to our students that enhance an experience, perhaps adding to their joy, but it isn’t our job to *assign* joyful experiences or to convince our students to find our agenda joyful. I was bringing activities and experiences to Joey that I *thought* were joyful and motivating,

rather than letting *him* lead the way. Instead of creating a learning opportunity based on my therapeutic agenda, I needed to discover what brought Joey joy and then layer in my intervention to harness that power of joy for engagement and learning. So what *did* Joey find joyful?

DISCOVERING JOY

For kids with complex profiles, it can be difficult as partners to identify what brings them joy. Vision, sensory, or motor differences can cloud a child’s ability to show us what they are attending to, interested in, curious, or passionate about. These challenges can also hinder a child’s development of optimism as a learner, serving as access barriers to successful experiences with new learning tasks and creating a feeling of learned helplessness. I needed to gather a better understanding of Joey’s physical and cognitive needs so that I could try to perceive our therapy sessions from his perspective and offer support in areas that served as barriers to his engagement and learning. I also needed to intentionally but patiently implement simple strategies to help me understand what Joey enjoyed and how I might be a part of that joy. Joey was new to me and a reluctant play partner, so I needed to start my journey to understanding Joey by going first to those who understood him best.

A great place to start in your quest to figure out what joy looks like for a student is to interview those closest to and most familiar with the student. Use questionnaires like the one linked at the end of this section to guide your thinking and help you ask questions that give you the answers you really need to move forward in your understanding of each unique student’s profile. This is different than asking about medical history or academic baselines—here you are focused on what others have observed the student to be most attentive to, interested in, curious about, and passionate about. Reach out to more than one familiar partner, such as a past teacher, a long-standing therapist, and of course, a primary caregiver. You want to discover not only the experiences that bring the child joy, but also the observable behaviors that let that partner know the activity is truly enjoyable to the child. Get creative and flexible with these collaborations, as I know that a therapist or educator’s schedule doesn’t have much wiggle room for lengthy meetings with team members. Several shorter interactions with informants can be even more powerful than an hour-long phone call, especially if these encounters are speckled across several months of getting to know your new student. Use email, voice memo, video calls, in-person meetings, or phone calls—whatever it takes. This piece is essential, so make it happen! Maximize the impact of your time in collaboration by being very intentional with the types of questions you ask. You might ask questions like:

- During what part of the day is Joey most happy and how do you know he is happy during these times?
- Can you give me some examples of times when Joey seemed most happy this week?
- What do you and Joey like to do together and why do you

think this is a fun activity for Joey?

- How do you know he is enjoying this activity and why do you like to do this activity with Joey?

Alongside interviewing familiar partners, take careful time to thoughtfully observe your student in different situations with the motive to find joy and how that joy is indicated through their behavior. Get creative with your observation strategies, using not only traditional “live” observations of the student, but also asynchronous observation through video shared by others, such as parents, therapists, and teachers. Keep in mind, kids with complex profiles don’t always show preference in typical ways. For example, some may quiet their bodies when they are most interested and curious about an activity, others may become visibly excited, such as by flapping their hands or jumping up and down. Some kids may need processing time in order to acclimate to a change in their body or their surroundings before they are able to demonstrate a signal that reflects joy.

In addition to looking for behaviors that indicate preference, pay close attention to behaviors that indicate overwhelm, dysregulation, anxiety, aversion, or fear. You may notice a mixture of approach and avoidance behaviors from a child as they engage in a known “preferred” activity and it will be important to understand how to modify your own role in that activity to support the child’s ability to trust and invite you in. For example, perhaps a child loves to spin, but a partner spins the child for too long or too forcefully and eventually, what started out as a seemingly joyful activity turns into the child protesting or abandoning the interaction. As you interact with new students that present with sensitive profiles, be mindful to think critically about the why. If a student demonstrates a negative behavior during an activity that was thought to be fun, or loses attention and leaves the interaction after just a short while, what might have caused this to happen? What might you as a partner do differently next time to extend this interaction and avoid negative outcomes?

When brainstorming joyful experiences that can be used to foster language growth, think beyond tangible objects. Preferred toys, foods, or technology may be the most obvious choices but they are not likely to be the only experiences a child finds joyful and may actually be less effective for building language skills in the long-term due to their fleeting nature and roots in requesting rather than connecting. Think outside the object box as you observe and interview so that you are sure not to miss the experiences that offer serious learning opportunities, such as sensory experiences, social closeness, and movement. Check out this resource on AACcessible for an example of a survey you could use to uncover less obvious preferences for your students.

[Motivation and Joy Survey for Complex Communicators](#) (Digital download, \$1.50) (See image 1)

Through interviews with Joey’s dad and his occupational therapist, I discovered that he was most motivated by movement and sensory exploration. He was known to enjoy firm input, like

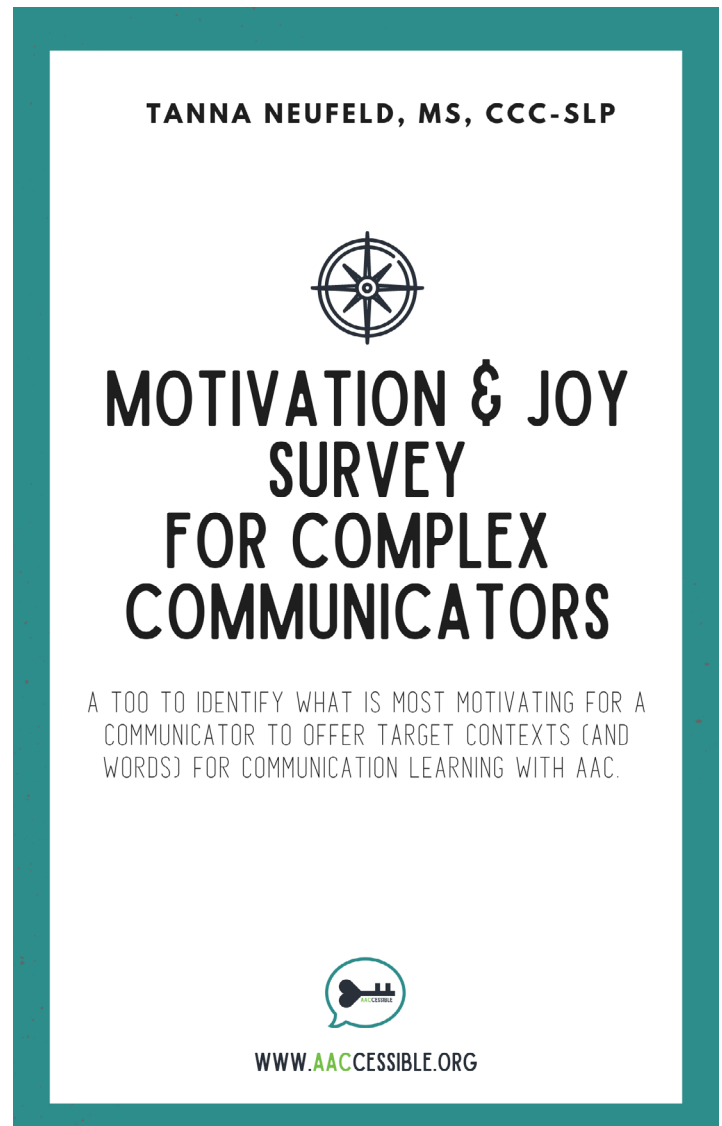


Image 1 - [Motivation and Joy Survey for Complex Communicators](#)

being pressed between pillows or given tight hugs. He also enjoyed jumping, spinning, and playing in water. With these known favorites in mind and some background on Joey’s prior therapy experiences, I observed Joey in our sessions together, looking for those pleasure and displeasure behaviors as he interacted with the environment and activities in our room. I gave him a lot of freedom to explore the room and our therapy center, following his lead, keeping him safe, and placing minimal to no demands upon him, for several sessions. Joey started to show signs that he was relaxing a bit more into our routine together, and he stopped trying to leave the therapy room. I was learning about what Joey liked and how to read him, now I just had to figure out where I fit into his joys and how I could make the most of each as a language learning moment.

JOINING IN ON JOY

Once you have identified the most enjoyable and motivating experiences for your student, it's time to figure out how to use that joy to promote engagement and learning. A great first step is to create simple routines around the experiences at the heart of the child's joy. Simple routines have a beginning, a middle, and an end and in that, a great deal of predictability, with a role for each partner to play. Think of the tried and true "ready-set-go" routine that we all know and use often with our young learners. What makes "ready-set-go" a great routine for communication building and how can you carry that greatness into a routine created around your student's joyful interest? Great routines involve anticipation of something happening and leave time and space for the partners playing together to make that something happen. Let's think about Joey's interests mentioned above. How could I take Joey's love of firm input, jumping, and spinning, and create simple, predictable routines that give Joey and I a role to play and set the stage for potential communication skill development?

Now that you've crafted a few simple routines around your student's joys, it's time to insert yourself (gently) into that routine. Our primary goal when joining in on joy with a complex child like Joey is to maintain the interaction. If Joey thinks that I am just going to come in and change the whole thing or add a ton of demands, he certainly will start beelining it for the door again. I need to join in at a level that Joey can not only tolerate, but enjoy, if I have any chance of bringing new learning to these joyful opportunities. When joining in on joy, we want to join with our actions, our emotions or affect, and our communication. The first two elements support engagement and keep the interaction going so that our attempts to model and teach communication are less likely to fall flat. But we all know that we have a job to do too, and that job includes teaching kids like Joey to communicate. How can we build on this primary goal of maintaining engagement and interaction and integrate the communication skills we know we are responsible to teach?

You Aren't "Just Playing"

As pediatric therapists working with young children and even older children with complex profiles, we often get accused of "just playing". I might argue that there is no just in the work of play and that all children require the context of play for learning and growth. But yes, I play, as I must, but there is more to what I do that isn't always obvious to those observing or to partners who may not fully subscribe to the value of child-led, naturalistic teaching.. I play with purpose- to build relationships with my learners; to make positive associations with therapy for my students; to teach social and play skills; and to teach communication and language upon the most naturalistic and powerful platform available - play. Of course, to do this, I have to have goals and a plan to integrate those goals into this newfound, joyful routine that my student has brought to the table.

For productive play, think about the student's communication goals and your plan for breaking those goals down into a stepwise program of teaching the skill at hand. What will you do to teach the target and what do you want to see from your student at each step to know that learning is taking place? Got your goat and your sequential teaching plan? Great! Now put on your thinking cap and brainstorm ways you can embed those targets into your newly crafted, joyful routine. Use all of the powerful prompts and cues you have learned in your career, but time them in a way that the child always initiates the communication in this joyful routine. Watch your student for those cues that show you what they are attending to, interested in, curious about, and passionate about in these joyful routines. Some examples of attention cues to look for include:

- Gaze - what is the child looking at?
- Body posture - are they quietly listening? Moving toward? Attempting to communicate with a body movement?
- Sound- how might vocalizations indicate intention for this student?
- Gesture- are they reaching for or manipulating something of interest?
- Expression - is their face indicating intention or attitude about the experience?

As a new partner who wants to be invited and allowed to join in a child's joy, you need to balance interaction and communication. During play, sometimes kids are just playing or exploring, and other times they are communicating. It is important to know how to respond as a partner in these different learning moments so that you can balance your priorities and maximize the impact of your teaching, without the risk of being a killjoy.

Mirror Play and Match Language

If a child is playing and not obviously communicating through their behavior or existing language, then the priority in that moment is to match their play, adding sound or language only at a pace and density that keeps the interaction focused in the play. For example, if the student is spinning a toy on the table and observing, then you should spin a toy on the table alongside them and observe. This is matching their play. In these moments, you are using strategies like focused stimulation to layer the right amount and type of language over the play as you play alongside the child, mirroring their actions and matching your language to their point of attention, interest, curiosity, or passion. Some kids are overwhelmed by a lot of chatter-adjust your style to the needs of the child. Sometimes, simple sound effects paired with play actions go a long way to capture and sustain a child's engagement in a play interaction *with* you rather than beside you. These interaction-focused moments may also be powerful times within which to expand on the joy that the child already knows in this activity, such as by showing them new ways to experience an ac-

tivity they already know and love. I'll talk more about this idea below under *Expanding on Joy*.

Model Within Magic Moments

During joyful routines, when a child initiates communication using behavior or existing language, your priority will shift to not only maintaining the interaction, but focusing more intentionally on communication skill building. Here you will use strategies like *contingent modeling* to match language to the child's current communication signal and *expansion* to add to their original message with models of new words, forms, or communication functions that link closely to their intent and interests. Moments within which a student is already initiating communication are the most powerful when it comes to the impact of your language models—this is why I've termed them *Magic Moments*. When you model language that matches the expressed intent that a child has independently demonstrated, you can be almost certain that your models will be relevant and meaningful, increasing the likelihood of learning to occur. As you well know, aided language modeling is essential for communicators learning to use AAC; therefore, it is imperative that you model language visually as well as verbally using that "one-up rule" in language intervention that we have come to know well in our field of communication support.

For some complex communicators, including Joey whom you have come to know in this article, attention to others is challenging. Capturing and sustaining a distracted child's attention to aided language models can seem impossible, even when joy is at the heart of your experience together. There are many support strategies you can explore when attention challenges arise, including:

- Limiting complexity and
- distraction across the senses by controlling the environment as much as possible
- When focus wanders, meet the child's focus by maintaining a close interaction space, at or below their eye level, bringing interesting things to their gaze when needed.
- Entice the child with high affect, making yourself and the experience at hand the most interesting thing in the room.
- Wait quietly to give the child time and unspoken prompting to re-engage with you and what you're showing or doing.
- Consider developmentally appropriate attention expectations and keep yours reasonable. One hundred percent attention to you and your models is likely not a reasonable level of attention.

My first routine with Joey that felt successful on both the interaction and language building fronts involved sandwiching him between two giant pillows and pressing firmly with swooshing sound effects. He smiled and tensed up with joy each time I set the stage for the next big squeeze so I knew he understood what to expect. I started each set-up with a dramatic *Ahhh-ahh-*

hhh-ahhhh sound effect, holding the edge of the top pillow just above his body and making a dramatic, wide-eyed but playful expression. Joey would squirm and giggle in anticipation as he rested on the bottom pillow, locking his eyes on mine, on the edge of his seat for when that pillow would drop. As the pillow dropped and I offered firm, vibrating movements upon Joey's back or legs, I made a *swoooooosh* sound with each press and then a sigh as the routine came to an end and my pressing ceased. Joey caught on immediately to this beginning, middle, and end, and soon I could pause at various steps in the routine as he filled that silence with communication attempts to keep the activity going. He used gestures, sometimes approximate words or sound effects that matched those used in the routine, and eventually, with two word combinations to regulate and connect around this incredibly joyful activity. We played this way for most, sometimes all of our initial sessions and each time, I was pleasantly surprised at just how much language I could model in such a simple exchange. There was no "Say X" or "Use your words", or "Tell me what you want". There were just two play partners in a joyful dance where sheer motivation and clear expectations led the way for language growth.

EXPANDING ON JOY

Working with children who have seemingly limited, unusual, or immature interests can start to feel repetitive to partners over time. You may find yourself thinking that you cannot possibly teach a student all of the language they need to learn if all you do together is spin or jump. There is, of course, some truth to this sentiment, as we know it is essential to play with variety in order to expand the variety of language that can be modeled in that play. However, I would challenge you to really think deeply about how much of the stagnation you might feel in working with limited or unusual interests is actual versus perceived. Core language, for example, can be largely taught with a limited set of activities, irrelevant to the nature of those activities. All you need is a bit of open mindedness and creative consideration of the possibilities. But, for the holistic welfare of all students, we are always striving to expand their play and social universe, making baby step connections between the things that they already know and love, and other experiences that they don't even know exist but are likely to find just as much or even more joyful than those which they are comfortable with.

A great first step in expanding on established joyful routines with a student is to expand on the aspects that can be experienced within the familiar routine. If a child enjoys spinning, for example, you might start with simple target words like *more*, *go*, or *stop*. Over time, you can explore the *how* of spinning, experimenting with different ways to adjust the action to give the child an opportunity to obtain and demonstrate preference. Should we spin *fast* or *slow*? Should we spin *for a long* or *a short time*? You could then move to the *what* of spinning—what should we spin on? The *swing*? Which swing— the *purple* swing or the *red*



swing? The *soft* swing or the *stretchy* swing? And how about the who of spinning- should we spin *alone* or *together*, *me* or *you and me*? *Who should spin you-mom spin or dad spin*?

You get the idea here. With some simple brainstorming around core vocabulary alone and how an activity can be manipulated to include those concepts, you can find many words and word strings to model during a simple, joyful activity. Don't forget all of the social communication functions you can tackle with this simple language as well. What questions can be modeled, what opinions or comments, what protests, etc.... Check out the resource below from AACcessible for an example of how to make an AAC Word Map around a simple, joyful routine you have crafted with you student.

[Free AAC Word MapTemplate](#) (Digital download, free) (See image 2)

A second strategy to expand on a student's familiar joys is to explore more routines that offer similar attributes to what the

child already knows. By observing and interacting with the student doing joyful routines they have already discovered and expanding on what can be experienced during those familiar routines, you'll start to get a sense of your student's motivations and passions and can identify other routines that tap into those. This might involve adding different actions or materials to an existing sensory or movement routine or bringing familiar and joyful actions or materials to a new environment or routine structure. The possibilities are endless and the procedure really is systematic trial and error that is informed by what you already know has been successful with the student.

Reflecting back to Joey, perhaps you recall a recent student or client that challenged you more than you felt ready for. We've all had this challenging experience more than once as a pediatric therapist. Working with tough kids with complex needs, you might catch yourself in a tailspin, plagued by that false, but persistent, inner narrative: "This student just isn't motivated." "This

CORE WORDS
words used to describe, talk about action, to end this routine, and to keep it going

FRINGE WORDS
people, places, & things related to this routine

PHRASES
combinations of the words to the left and things that partners say during this routine

IN THIS ROUTINE, I LOVE...

AAC WORD MAP _____

PICK A ROUTINE

NOTES

HOW TO USE WORD MAPS
Play/be together & model these words or phrases by saying them & showing them on an AAC tool. Model the words that go along with the things the child is most interested in during this activity. Choose a few words at a time and model words at or just above the child's current level.

WWW.AACACCESSIBLE.ORG © 2021

Image 2 AAC Word Map Template

client just doesn't like to do anything." "I can't teach her language if all she wants to do is climb on the furniture." Many of our communicators who are learning to use AAC have challenging profiles that make engagement difficult to discern, support, or sustain. Our response in the quest for that elusive "productive session" may be to place more structure, exert more control, use more behavioral support, or in some cases, even give up entirely, sending the student to another professional that we may feel is more equipped to manage the challenges at hand. When we feel out of control as teachers and partners, we want to lead even more, instead of following the child's lead. We want to structure even more, instead of letting the child's natural motivation and attention drive our teaching. We want to isolate skills into measurable and achievable tasks so that we feel like we are actually "doing something". I challenge you to start with joy, apply some of the strategies explored here, and revel in the incredibly positive impact this will have not only on your student, but on your sense of gratitude and success at the end of every session. ■



How confronting disability and recreational assistive technologies can spark inner transformation

Summary:

How can something mechanistic and inert transcend into the most meaningful aspects of human life? From occupational, recreational therapists, to parents and human beings alike, the vision and hope for their patients, children and friends with disabilities has always been the same: How does one become well-adjusted to living a holistic, fruitful and meaningful life with disability? Throughout this article you will get an intimate glimpse into a personal story of growth and transformation while confronting disability. Furthermore, how recreational assistive technology served as a catalyst for such meaningful change, transcending beyond self and impacting community as a whole.

How can confronting disability and something mechanistic and inert transcend into the most meaningful aspects of human life? We're all in search of meaning, joy, the opportunity to participate in life as intimately and richly as possible. People with disabilities are no different. We just need a little bit of help from our friends. Those friends come in many forms. Human beings and community is definitely one of them, assistive technologies are another. As far as disability, it's not something we typically think of as a launching pad for something great. However, just as diamonds are forged in flames, adverse conditions can lead to

beautiful things if we allow them to.

I'd like to share my story. A story that took me on a journey to become the person who I am today. As we've all experienced, a story with its hardships, mountains to climb, it's rich experiences, joys and ultimately fruits that allow for a beautiful life. Something off the well-known path of the typical scope that Closing the Gap covers of course. Nonetheless, my hope is that in sharing my story with you all that I could share a glimpse of the important role that confronting disability and recreational assistive technologies play in transforming the life of individuals



PHIL HASHEM sustained a spinal cord injury in 2001 from an auto accident. He is an incomplete C5-C7 walking quadriplegic. He used this event to transform and reshape his life. Phil's skill set is diverse and spans multiple industries. He has broken company sales records and achieved multiple top sales honors and awards spanning across all 3 different sales organizations he's been a part of. Phil also has 15 years of stock, options and futures trading and investment experience. He was able to utilize market opportunities in the 2020 corona-virus induced economic shutdowns to shift career paths. Phil is also a music producer and rapper. In 2013 he made an impact in the Arizona underground rap scene sharing his story through his lyrics. This was cut short due to another auto accident and having to re-learn to walk again. Today Phil has extended this skill set into video editing and content creation cataloging trails for adaptive mountain bikers and the continued promotion of the sport. The focus is on giving back to the community and creating access to adaptive mountain biking, which has had such a transformative impact on Phil's life. He is always looking for the next challenge and opportunity to make an impact. Phil has aspirations in sharing his experience and story through motivational speaking, the promotion of helpful assistive technologies, making an impact on community and helping others find their spark.

with disabilities; sparking inner transformation and impacting community as a whole.

Like with any story I'd like to bring you back to the beginning, to the formative event that shaped the foundation for the topic at hand. On a rainy and gloomy Friday September 21st 2001, I was a passenger in my best friend's car. My friend lost control and we hydroplaned into oncoming traffic and were T-boned by a truck on the passenger side. My other good friend Nick was killed on impact and my best friend Jay was fortunate enough to walk away unscathed. I on the other hand was paralyzed from the neck down. I was only 16.

As one can imagine becoming paralyzed at such a young age was a radical paradigm shift. From being a kid, hanging out, playing basketball and jamming with the band, the focus shifted quickly to committing all available time to re-learning to walk again. The first year was grueling, working out multiple hours 7 days a week for small results like wiggling a toe. Nonetheless, the smallest strides built upon one another and I was able to begin walking with the help of a cane inside of that first year post-injury. Of course deficits remain and maintaining such results is a lifelong mission and commitment.

Community was key, the support of family and friends throughout the process was absolutely crucial. This was a great source of emotional, psychological support and strength throughout not only the rehab process but the mental aspects, social life and adjusting to a new body and how it now functions in the world. Although the support of loved ones is absolutely indispensable, dealing with disability is ultimately a very personal journey. Acceptance and the integration of all the various psychological, social and physical changes takes time and the path of how you get there is so different for all of us.

Due to regaining enough function to be able to walk with a cane, the first several years post-injury were really focused on recovery. A part of this was traveling overseas, seeking out various treatments and focusing on physical rehab to attempt to regain as much function as possible. Integrating back into life and dealing with the psychological aftermath took time. I found that if I tried to measure progress by restoring as much as I could of what was lost, it would always feel like something was missing. Regardless of that knowledge that feeling may still persist and I think it takes a paradigm shift to get to a healthy path where a meaningful and happy life is possible.

PILLARS OF THE GOOD LIFE

I found that there were certain pillars of the Good Life. Finding my faith was a part of that. Taking care of health, community, finances and being involved in a passion and personal achievements all contributed to this paradigm of the Good Life. I picked up sales because my injury taught me how to communicate effectively with people. I learned about stocks and investing because I knew assistive technology isn't cheap and I might not always have insurance that will cover it. Due to the spinal cord

injury I no longer had the dexterity to play guitar so I started making music using a midi keyboard to trigger the various instruments. I faced my fears of performing on stage due to disability, won the competition and was on the radio. Shortly after I was involved in another car accident, shattered my right leg to pieces and had to relearn to walk yet again. It took two years, longer than the spinal cord injury.

I mention these accomplishments in addition to tending to the other pillars of the Good Life because they were integral in laying a foundation of character and meaning in confronting and ultimately transcending disability. In many ways it was due to the very disability that pushed me to try new things I wouldn't have done before or developing skills and parts of myself that I wouldn't have focused on before. All of this helped foster gratitude and facilitated acceptance. Although physically something was lost, spiritually, psychologically and emotionally something was gained. So coming full circle, arrived the paradigm shift that was needed to change the narrative from restoring what was lost to finding something new.

NEAR DEATH IN THE WOODS

Fast forward to 2020, as we all know the world was forever changed by the Coronavirus. It's interesting how sometimes bad things can lead to good things. When everything was on lockdown a friend of mine took me a couple hours north of Phoenix, Arizona to beautiful Payson, the Mogollon Rim and surrounding forests. I instantly fell in love and began going there every weekend for the next 6 months, whether with friends, family or on my own. Having a disability I couldn't just hike deep into the woods. I had to improvise. I love the peace and quiet of the woods so I would find dirt paths that I could drive my car into sections of the forest to find that tranquility, get the wheelchair out and just be.

One day I went a little too far and my car got stuck. I had no reception, was on a rarely-used hunting road and my horn died after 4 hours of honking. It was getting dark and all I had was a small bottle of water and a pack of crackers. At that point I realized I had 2 choices. I could hope someone would find me and use the food for that but if I'm wrong I wouldn't have enough energy for the second choice; trying to somehow make my way out of there to the main road for help.

I opted for the second choice. I tried to calm my nerves and rested my eyes as much as I could until morning when I could see my surroundings. Using my wheelchair as a walker it took me 6 hours to walk a mile through the uneven terrain to find help at the main road. This was one of the most formative experiences of my life, facing adversity and death and making it out alive. In terms of confronting disability an experience like this went straight to the top. My faith, persistence and resolve were all strengthened. My self-confidence was magnified and further solidified the belief and assurance that I could overcome anything. Still I was standing at a crossroad. At that point you either



get too scared to ever go out into the wilderness again or you get better tools. I decided to get better tools.

ADAPTIVE SPORTS AND ASSISTIVE TECHNOLOGY

This brings us to the part of the story that puts me on the path I'm on today. In deciding to get better tools with the money I saved up from sales and investing I bought a Jeep. This way I wouldn't have to worry about getting stuck again. Throughout my research into assistive technology that can aid in my outdoor adventures, I came across a game changer. I knew about road handcycles from previous experience but an offroad adaptive mountain bike? This was new to me and absolutely blew my mind! The outdoors, forests and various natural beauty that I now absolutely fell in love with could be accessed in an even more intimate and direct way? Sign me up!

About a decade earlier in 2011 I was introduced to adaptive sports for the first time post-injury. It seems like a long time, as I was injured in 2001 but my focus was just on other things at the time from recovery to music. A seed was planted then though. A seed sown by an extraordinary organization called Arizona Adaptive Water Sports. At the helm was an incredible human being whom I consider the queen of adaptive sports in Arizona, Jo Crawford. It's funny how life works and how different points in time are connected.

The thing about adaptive sports is that depending on your level of injury and your interests it just takes the right spark for something to blossom. The beauty of the era that we live in now is that assistive technologies have advanced enough to be able to make essentially any sport adaptive. From tennis, to golf, to skiing and



Tennis and Golfing



"Queen of adaptive sports in Arizona", Jo Crawford

of course adaptive mountain biking. This has opened up an entire new world of possibilities for people with disabilities to recapture some of that magic that makes life so worthwhile.

Dealing with disability whether from birth or injury is no easy task. After getting to a point in life or the recovery process when you've gotten a handle on the day-to-day needs, shifting focus to long-term sustainability is paramount. The reach of adaptive sports extends into several critical components of the physical, mental, social and as we'll come to see spiritual aspects of human life. These components in totality are integral to being able to sustain a holistic, fruitful and meaningful life with disability. "Evidence of benefits from various adaptive sports have been examined. These benefits include improved levels of functioning and independence in activities of daily living, increased physical capability, improved physiological capacity, increased levels of



Sking and Biking

employment, and improved social status and sense of belonging. All of these components influence an individual's quality of life" (Reljin, 2019, p. 6). Recreational therapy and adaptive sports are that bridge to sustainability. This is due to the concentration of all those critical components that not only contribute to quality of life but are instrumental in confronting and transcending disability. Furthermore, advancements in assistive technology have effectively allowed all sports to become adaptive, allowing for the vast expansion of recreational needs, going beyond the realm of practical needs.

PRACTICAL VERSUS RECREATIONAL NEEDS

The way I see it is that assistive technology falls into 2 categories: adaptive equipment addressing practical needs and adaptive equipment addressing recreational needs. Adaptive equipment addressing practical needs exists in the day-to-day domain of making daily activities easier. Examples would include adapters for eating, drinking or hygiene, van lifts for wheelchairs or shower chairs to name a few. As the scope of this article suggests adaptive equipment serving the domain of adaptive sports is the best example of assistive technology addressing recreational needs. Examples include specialized wheelchairs for playing tennis, specialized adaptive golf equipment that allows for standing, adap-

tive skis for skiing and of course the adaptive mountain bike in the form of a tricycle with a hand-crank. Within these 2 domains of the practical and recreational there's of course crossover. We can all think of wheelchairs for day-to-day mobility and of course wheelchairs that are specialized for racing, tennis, basketball, rugby and many different adaptive sports.

The principal difference I want to get across is that assistive technologies addressing recreational needs don't just simply fill a practical need and make life easier. When aligned with a person's naturally inclined interests, assistive technologies addressing recreational needs transcend beyond simple practical fulfillment into the domain of purpose filling and empowerment. Addressing recreational needs allow for experiences that would otherwise not be possible for people with disabilities. Experiences are the fuel of the spirit. It's what makes life worth living. The ever-growing enhancement of adaptive sports through assistive technologies has allowed for the unprecedented participation in cherished activities leading to experiences which give life meaning, allow for joy, social connection, physical activity, mental fortitude, and emotional stability.

CREATING ASSISTIVE TECHNOLOGY

To tie everything together. Living with disability prompted me to confront various aspects of my life I otherwise wouldn't have. This allowed me to develop skills and forge inner strength better preparing me for life. Confronting disability and acceptance allowed for focus on living life to the fullest. Trying adaptive water skiing for the first time in 2011 was the seed. The near-death experience in the woods in 2020 was the formative event. That experience led me to begin researching into obtaining the necessary assistive technology to sustain my passion and love for the outdoors. That research led to me finding my spark. That spark was a Lasher full suspension off-road adaptive mountain bike with E-assist, an absolute game changer! (See Video 1 below.)



Video 1 - A walk-through video explaining what goes into a Lasher off-road adaptive mountain bike.

<https://www.youtube.com/watch?v=Q-LLzAE3DhU>



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There were a few different adaptive mountain bikes to choose from. However, when I stopped by the Lasher shop I ran into Max Gretschmann. Little did I know at the time that I would be running into a legend in our sport (See Video 2 below). Max was kind enough to spend several hours of his day giving me a personal tour together on the bike to let me get comfortable. This combined with speaking with the owner Bill Lasher and truly understanding the quality and capability of this bike, I knew this was my second half.



Max Gretschmann - Max and Phil at the April 2022 Lasher.



Video 2 - Max and Phil riding at the April 2022 Lasher event.
<https://www.youtube.com/shorts/IWpXIUw1BMU>

With this incredible newfound accessibility a whole world of possibilities to do all kinds of unique activities and travel more opened up. The bike however is quite large and heavy and of course me being a quadriplegic, albeit able to walk a bit, made it necessary to come up with a viable solution of transportation. I found my passion and felt more alive than ever before. There was a whole world of possibilities at my fingertips. I knew that to have maximal freedom and independence I needed to find a solution that would let me transport the bike completely by myself. This way there would be nothing preventing me from being able to explore every opportunity that presented itself. Every-

thing that was on the market at that time was too difficult to do by myself and wouldn't do what I was looking for. I knew that to be able to have the independence I wanted I needed some very specific specifications that simply didn't exist on the market.

It had to be easy to get the bike on and off. The lift had to be automatic to be able to accomplish this. I wanted to transport an extra bike for people to be able to ride with me. It had to be able to swing away to access the trunk and my wheelchair. I had to be able to pull into the garage with the lift fully loaded with both bikes and be able to close it without taking them off. Because the last thing you would want to do after being on the road all day is unload 2 bikes just to go to bed! Finally, I wanted it elevated high enough off the ground so that I could do some light off-roading when I wanted to travel into the woods and I have the bikes on the lift.

There was no way around it, the assistive technology that would accomplish all of this would have to be created and customized for this practical need to be met. I knew this wouldn't be easy or cheap. Although I had a physical disability, I had my mind. As I mentioned above I decided early on it would be important to have my finances in order and cultivate skills like sales and investing that would allow me to obtain the assistive technologies necessary to facilitate my endeavors in life.

I set out to find this needle in a haystack. Most companies that I called either didn't want to take on the liability, didn't have the know-how or were too busy to take on such a niche project. Turning over every stone, in my research looking for the right adaptive mountain bike I met Jeremy McGee. He happened to tell me about a company making lifts for scooters and bikes that might be worth looking into. Although they surely didn't have the lift I was looking for in stock form, they had something even better. That something was a mechanical genius named Eddie Dimand, who happened to be the owner.

From the first conversation we had it was evident Eddie had what it took for this project. I knew from the beginning he was the guy for the job because like a game of tennis we just kept bouncing ideas off each other and there was a flow and a willingness to think outside of the box and get the job done. Not only that but Eddie was kind enough to take time away from regular projects to take on something niche and one off like this.

After several days of bouncing ideas we arrived with the game plan for my original vision. If that wasn't enough, Eddie came up with an idea to essentially make a robot that would help me put the lift on and take it off completely by myself! (See Video 3 next page) This allowed me to achieve maximal freedom to be able to go anywhere, anytime without any assistance other than from the technology of course. I call this freedom project ready.

This example demonstrates the confluence of key elements like passion, will and possibilities intersecting with assistive technology. Every time such an achievement is obtained it emboldens and reinforces the self. Bringing more confidence, more persistence and a willingness to do whatever it takes to be able

to enhance quality of life. This of course reinforces a willingness to work harder to make sure there's ample resources that are available for future projects. It allows increased participation in social activities, events and life in general which raises one's spirits and magnifies all of the previous fruits spoken of that come with meeting recreational needs. In totality, further empowering the individual and creating a virtuous cycle.



Video 3 - Phil using the robot to assemble the lift and loading the adaptive mountain bike and upright bike on his own.

<https://www.youtube.com/watch?v=0LVoCz7VWjg>

THE RENAISSANCE

Finally absolute freedom and independence! This combination, yet crossing over of adaptive equipment meeting practical and recreational needs was the assistive technology necessary to grant accessibility into a whole new world previously inaccessible due to the limitations of disability. It was akin to a semi cure. The lift and adaptive mountain bike effectively gave me the ability to independently arrive at, unload and hike through vast and beautiful trails in the wilderness that I so much loved. The bike allowed for participation in a new activity with friends, not only in the form of participation but at the highest level where competition can take place. Better functionality of adaptive equipment allows for increase in skill, which levels the playing field and cultivates confidence and belonging. Social interaction is increased. The bike would turn more heads than a Ferrari! Since many have never seen one before it would spark all kinds of conversation, allowing me to meet new people essentially every time I would ride.

This very article I wrote was due to the fact that I met Froma Jacobson, an occupational therapist that happened to be hiking on the trail that I was getting ready to ride (See Video 4) and she introduced me to the wonderful people at Closing the Gap. I told her my story and that I'm just a quad on a bike trying to live life to the fullest! I eventually combined that phrase into "QuadOnABike" which became my Instagram and YouTube handle so I could find other fellow riders to connect with and also give back to the community. I initially wanted to video my rides so I'd have something to look back on when I couldn't ride anymore. I then realized I'm

already seeking out all kinds of trails to ride and videoing them, why not begin cataloging trails suitable for adaptive riders? Another adaptive rider Jeremy McGee whom I mentioned earlier was already doing this in California, why not do my part in my state.



Froma Jacobson, an occupational therapist Phil met on the trail while riding one day.



Video 4 - Phil sharing his story with Froma Jacobson the day he met her at the trail.

<https://www.youtube.com/watch?v=5MOhSt1IOw>

In putting out trail videos people started to reach out wanting to ride. From one of those rides I met Jordan Koeninger and we started the Arizona Adaptive Bike Club in an effort to gather the community and ride together. Due to the expensive nature of these bikes, gaining access wasn't possible for everyone. Jo Crawford the queen of adaptive sports here in Arizona I mentioned earlier, introduced me to Truman Shoaff. Truman is the summer program coordinator for a great nonprofit Northern Arizona Adaptive Sports Association (NAASA). They happened to be putting together their first adaptive mountain biking program and had an order of several adaptive bikes coming in. This combination of the Adaptive Bike Club and NAASA would allow a whole community of people with disabilities to be able to participate in this life-changing sport and experience the beautiful outdoors in the most freeing and independent way yet possible.



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Truman Shoaff, summer program coordinator for Northern Arizona Adaptive Sports Association.



Video 5 - Phil at the Telluride Adaptive Sports multi day adaptive bike group ride event May 2022 in Moab, Utah.
<https://www.youtube.com/shorts/UvF3hJvPFDs>



Phil and Jordan Koeninger, founders of the Arizona Adaptive Bike Club.



Robin Brown and Phil in Big Bear, California.



Video 6 - Phil and Robin Brown riding at Big Bear in California.
<https://www.youtube.com/shorts/hlQttS90YeY>

There were events like the biannual Lasher event in Vegas. Programs like Telluride Adaptive Sports holding camps in beautiful Moab (See Video 5). Opportunities and races to ride with friends like Robin Brown in Big Bear California (See Video 6). Moreover, countless other locations set to visit this year in Colorado, Arkansas, Texas as well as an invite to a first of its kind adaptive race event in France. Furthermore, earlier this year a couple friends Andrew Bogdanov, Blake Hill and I were the first adaptive riders to be a part of one of the biggest annual mountain bike races in Arizona, the Whiskey Off-Road (See Video 7 next page). There I met Seth of Zia Rides and we're in talks to start including adaptive chapters at races held in Arizona.



Video 7 - Phil, Andrew Bogdanov, Blake Hill and Truman Shoaff at the 2022 Whiskey off-road race.

<https://www.youtube.com/shorts/OVWI4p-W3u4>

As I continued to ride more, travel and meet more people in my home state of Arizona I started aligning with local business owners to make a difference in our community. I met great people like Lyle Rusanowski of Vaporwheels offering wheelchair users a highly customizable wheel to let their personality shine. He even gave me a tour of his factory and offered to help me with various projects around my bike in the future. I Met Josh Culver of MTN Biking Life, who like me had interests in expanding access and equal opportunity for adaptive riders and people needing E-bikes for medical reasons to be able to enjoy our vast trail system.

In this same light I'm looking forward to opportunities to connect with various trail authorities throughout Arizona to be able to make more trails accessible and open a whole world of possibilities for people with disabilities to enjoy the outdoors. Additionally, trail advocacy in regards to E-bikes for people with disabilities is quite the hot topic. I've been connecting with some great local resources to learn and understand more about the various laws that govern our trails and how to go about creating equal access for all.

I'm also excited to work with Karen Hagen of Arizona Spinal Association as a peer mentor and share all the amazing opportunities to participate in a variety of amazing adaptive sports and of course adaptive mountain biking. I believe it's incredibly important to receive encouragement and hope at the stage where disability is recently a part of someone's life. Becoming aware and learning about the vast array of recreational activities and the various assistive technologies that facilitate this is invaluable. This gives a person something to look forward to participate in, cultivate new and fruitful relationships and community.

On this same note, through my relationship with Froma and meeting other occupational and physical therapists like Susan Tully and Suzanne O'Neal, I started to receive interest for speaking engagements at places like Midwestern University. MWU is



Lyle Rusanowski owner of Vaporwheels and Phil at the Vaporwheels shop.



Josh Culver owner of MTN Biking Life and Phil at the trailhead.



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Group photo with Physical Therapy students at Midwestern University



<https://www.youtube.com/watch?v=cS5Mxh-l1dg>

the home of future occupational and physical therapists. So it was a great opportunity to speak with students who would be at the front lines of working with people with disabilities. I believe this is an invaluable opportunity to share with future therapists how truly life-changing and transformative it can be when a person finds their passion and aligns that recreational need with the vast array of recreational and adaptive sports options and the incredible assistive technologies making participation possible.

TRANSFORMATION AND ADAPTIVE EMPOWERMENT

I wanted to share my story as intimately as I did to bring to light a real world example of precisely that. In confronting my disability it gave way to fertile soil. Soil that would allow for something beautiful to take root. Truly limit busting assistive technologies like the adaptive mountain bike sparked a passion in me I didn't even know existed because of the wondrous experiences that were unlocked. This unleashed an entire transformation within which compels me to share this joy as enthusiastically as I do precisely because it's been so life-changing, it's uncontainable. Once you've experienced something like this you can't help but want to share it with others in the hope that it would unlock for them what it did for me.

Thank you for reliving this journey with me. It wasn't and isn't easy. It's not always pretty. It takes great effort, great friends, and the willingness to keep getting up. But it can be extraordinarily beautiful and rewarding if we allow it to. In having the privilege to share this story in the detail that I did, an important concept arose that has a great value to me. I believe that its value can be shared across our community of individuals living with disability. I call this "Adaptive Empowerment."

This concept spans across multiple domains. It starts with confrontation of disability itself. To get to the pot of gold on the other side we must confront the dragon that stands before it. This confrontation compels us to look within ourselves, who we really are and what we stand for. It prompts us to go deeper and further than we otherwise would have due to the need to adapt. If we are willing to embark on this journey it can transform us. As a diamond forged in flames, this paradigm shift brings great fruits to enrich our lives, heal our pain and transcend beyond ourselves into helping others, the foundation for true community.

The second domain is the role of assistive technologies. As discussed earlier, assistive technologies that fulfill practical needs make life easier. Assistive technologies that fulfill recreational needs crossover and tap into the domain of the spirit. Furthermore, enhancing joy and restoring experiences that were not possible or lost due to disability, thus empowering the individual.

As advancements continue, truly limit busting recreational assistive technologies like the adaptive mountain bike not only level the playing field but allow individuals with disabilities to stand out with the jaw-dropping cool factor, rather than

the uncomfortable glance in the other direction. Thus restoring participation in favorite activities and beginning to shift one's perspective of not only themselves but the world around them and in doing so reshaping the narrative of disability. This limit busting recreational assistive technology really allowed me to break barriers and further fueled enthusiasm and motivation just by virtue of allowing more experiences. This new world of experiences and possibilities is what sparked such a renaissance over a short 6 month span to embark on this incredible journey.

In short the synergy of confronting and integrating disability and the experiences restored by recreational assistive technologies is Adaptive Empowerment, but it's much more than that. It's a badge of honor for the journey traveled and still ongoing. It represents the struggle, the will to persevere, adapt and transform. The ingenuity and creativity of the human spirit to find a way. Ultimately it's a way of life, a drive to live in the fullest way possible, partaking of all the numerous and beautiful fruits that life has to offer. Having tasted what adaptive empowerment has done for my life only makes me more excited to share these experiences with others. This is the domain of transcendence and transformation where the physical realm meets the non-physical and begins to impact an individual at the deepest most meaningful level, transcending beyond self and impacting community as a whole. ■





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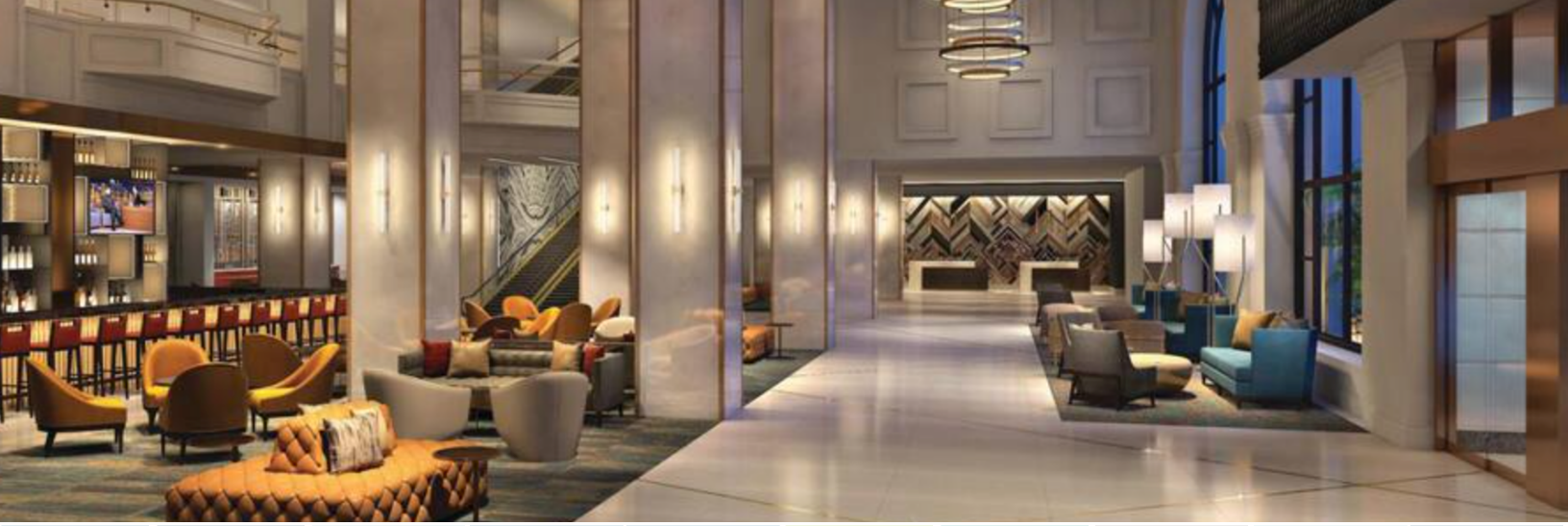
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Adaptive Workouts

Physical exercise is known to improve your physical, mental and/or emotional health. It's been proven in study after study. However, some people with disabilities may lack the fine motor skills to use traditional workout equipment. Thankfully there are an abundance of adaptive products on the market that allow people with disabilities to workout in a way that works for them. In this article, we'll be discussing the 4 different ways Bradley works out in hopes to inspire others and shed light on the adaptive products he uses.

"When I exercise on a regular basis, I feel much healthier overall and it promotes a positive mindset."

- Brad

ACTIVE HANDS GRIPPING AIDS

When Brad mentioned he wanted to start lifting weights and doing different types of exercises holding a traditional dumbbell or resistance band I was unsure how to assist him. Due to Brad's involuntary movements he cannot grasp or hold onto objects. We tried a couple of times with me holding the weight in his hand as he lifted, but this wasn't ideal and the movement of the exercise was somewhat restricted. Since Brad and I love staying up-to-date with all the latest adaptive products, we decided to search the net for a solution. We were amazed that we found the perfect solution in a matter of minutes! We laid our eyes on Active Hands Gripping Aids for the first time and decided to order a pair.



Active Hands

When they arrived we decided to use them to secure a 2 pound weight in Brad's hand to see how well they worked. We were both highly impressed by the outcome! Brad was able to maintain a firm grip on the weight since the gloves held his closed hand in place. He then began doing a few bicep curls and we were both beaming with excitement!

The amazing thing about these gloves is they can work with



BRADLEY HEAVEN AND DANIEL O'CONNOR Bradley was born with nonverbal spastic quadriplegic cerebral palsy, but he never lets it hold him back from living life to the fullest. What started out as a job for Daniel at the age of 19, working as Brad's full time aide while he attended high school, has turned into a journey neither of them would have ever expected. Over the years they've built a very unique and everlasting friendship. A decade later, they're still attached at the hips! They're now using their unique journey and experiences with adaptive products and assistive technologies to help others with disabilities through their non-profit, All Access Life.

pretty much any object. For example, Brad used them to hold a Nintendo Wii controller, a selfie stick and multiple objects he wouldn't be able to hold otherwise.

"Active Hands Gripping Aids have allowed me to expand my workouts. I no longer have to just box, I can lift weights, do pull downs, etc"

- Brad



Here is our video review of Active Hands Gripping Aids:
https://www.youtube.com/watch?v=_vFnHy27EeA

Amazon Link: <https://amzn.to/3xeZmo6>

BOXING GLOVES + PADS



Boxing Gloves + Pads

Boxing has been one of Brad's primary forms of exercises throughout the years. He loves to put on the mitts and hit the pads with full force! He always works up quite a sweat during a boxing session. We normally try to get these sessions in during the morning. This way Brad starts off the day on the right foot, becomes more alert/focused, de-stresses and becomes more energetic!

Brad uses a standard pair of boxing gloves that have a large opening to fit his hands in. The large opening is important because it is difficult to get his hand in smaller openings due to his involuntary movements. Once his hand slides in, I use the velcro strap to secure the glove to his hand and Brad turns into a mini Mike Tyson! We usually do a variety of different types of boxing exercises that last around 15 minutes.

"Boxing has allowed me to do endurance when I can't get in my gait trainer. Boxing also allows me to release frustration and let go of the things that are on my mind."

- Brad



Here is a clip of us boxing:
https://youtu.be/VnNAx_668EU?t=259

Boxing glove recommendation: <https://amzn.to/3O7zKj>

Boxing pad recommendation: <https://amzn.to/3aHPzPz>

VIRTUAL REALITY

This is a form of exercise we just discovered and we're excited about the workout possibilities VR could offer for people with various disabilities! Games like Fruit Ninja and BeatSaber become literal workouts! In these games the goal is to swing your arms to cut fruit and break blocks. There are plenty of other VR games to discover that can be treated as a form of exercise. They even have specific games for exercise which we are excited to eventually test!

Some people with disabilities may lack the fine motor skills to hold onto the VR controllers, like Brad. Luckily, we found a solution! It's called WalkinVR. WalkinVR is a software tool designed to make Virtual Reality Games and Applications more accessible



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Virtual Reality Headset



Brad using the Gait Trainer

to those with physical limitations. It allows players to interact in the virtual world in a variety of adaptive ways and provides a set of features to assist players with disabilities in adapting VR games to their needs. The beta version of WalkinVR was released in 2017. The developer says the utility's excellent reception has encouraged him to keep working on it and developing more VR accessibility features to enable disabled gamers to enjoy VR.

"VR allows me to experience things without having to worry about the usual accessibility challenges I usually face"

- Brad

GAIT TRAINER

This device allows Brad to stand in an upright position and he's able to walk or run around. I remember the first time I saw him in his gait trainer back in 2010. Brad's Occupational Therapist showed me how to safely transfer Brad from his wheelchair into the gait trainer and how to strap Brad in. This was a mind blowing experience for me because I didn't know something like this existed. Brad was placed into the center of the gait trainer and would sit on what resembled a saddle, his torso was then strapped in, securing him in an upright position. Since Brad's arms flail around, the gait trainer has armrests where Brad's arms are strapped down. Once he was fully strapped in, his legs dangled and his feet touched the floor. This would allow Brad to move his legs and build up momentum, which he was astonish-

ingly good at. Brad burnt rubber when he was in his gait trainer!

I noticed how much Brad loved this device and how free he was when he was in it. I also noticed he loved building up speed and running the frame of his gait trainer into the wall, he then would turn his head towards us and have this silly grin on his face, almost as if he was saying "did you guys see that!!"

I remember the first time I saw him using it in gym class. When we arrived at gym class the kids were playing hockey.

"How is this going to work?" I thought to myself.

Sure enough, a teacher grabbed a roll of duct tape from his pocket, took a hockey stick, taped it to the gait trainer and off Brad went right to the center of the action. I just stood there in admiration as the students would organically get Brad involved. His teammates would pass him the ball and help secure it to his stick as he marched his way towards the opposing net to score a goal!

Brad uses a Rifton gait trainer: <https://www.rifton.com/products/gait-trainers/pacer-gait-trainers>

"The gait trainer allows me to get out of my chair! I always feel free in the gait trainer. I'm able to walk or run around on my own without any assistance. It is extremely liberating!"

- Brad



SHOWCASING THE NO LIMITS MINDSET

The gait trainer allows Brad to showcase his no limits mindset to the world and accomplish incredible feats! On October 17th 2021 Brad completed our marathon in his gait trainer and showed a level of determination and resilience that left myself and the rest of our marathon team in shock!

To make a long story short I was going to push Brad in his adaptive jogging stroller for 40km then transfer him into his gait trainer for Brad to run the last 2.2km. However, a mistake was made and there was actually 4.2km remaining at the point I transferred Brad into his gait trainer. Brad was faced with 2 options:

1. Finish the marathon with me pushing him in his adaptive jogging stroller
2. Brad runs 4 km, a distance he has never come close to before.

We were confused and trying to figure out what was going on! I looked over to Brad and gave him the two options. I know him very well and I figured he would most likely choose to do the 4 km but, at the same time I was asking myself if this was safe. Is this even feasible? Will he get hurt? Will he pass out? So many unsettling thoughts were racing through my mind.

Brad thought about it for a second then gave me a reassuring look that he was ready to attempt 4 km for the first time in his life. I could see a bit of fear on his face, but what you need to know about Brad is that he likes to face his fears - to use fear as a compass and guide him through life. So, we transferred Brad into the gait trainer, Brad's mom secured his "No Limits" hat to his head and my girlfriend hoisted the "Defy Logic" flag high. Step, by step, by step, we marched...

Every time Brad would start to fade and get tired, members of the team would boost him up by playing pump up music on their phones or reassuring him that we were almost at the finish line - to keep pushing! He would perk back up and continue moving forward.

Suddenly, we could see the finish line! Finally! At this point Brad's gas tank was running empty. He had nothing left to give and I could see the pain on his face.

"Think of all the things that make you mad," my girlfriend yelled at Brad.

Suddenly he found a gear I've never seen before and started making noises and sounds I've never heard before. He hit speeds with his gait trainer he's never hit before.

Our team began chanting "BRAD!!! BRAD!!! BRAD!!! BRAD!!!!"

Tears began flowing from my eyes setting off a chain reaction. The team and the crowd were tearing up as well. This was



Brad at the finish line.

Brad's moment. He was truly displaying that no limits mindset and defying logic. On this day those were more than just slogans. Brad's actions brought the slogans to life. This was Brad's defining moment. On this day Brad rose above all odds and displayed a level of determination and resilience that will forever be remembered.

He crossed the finish line, slumped down in his gait trainer. He made it! 4.2 km!! Unbelievable.

SPECIAL MENTION: LUSIOMATE

We still haven't tested this product yet, but the company did send us a kit and we can't wait to put it to the test! LusiOMATE is a physical therapy ecosystem app with wearable sensors. The sensors attach to any part of the body and connect via bluetooth to an ever growing number of FUN exergames created to entertain and motivate Players through their tailor made PT programs.

We're especially excited about this product because... Games! Anything to do with gaming Brad is always in! The cool thing about this product is you can attach LusiOMate pretty much anywhere on your body. Stay tuned for updates!

To learn more about LusiOMate visit: <https://lusiorehab.com/>



UPCOMING WEBINARS



AAC & Aided Language Stimulation: Teaching Teachers, Paraprofessionals, and Parents the Why & How to Modeling AAC

By Sharon Redmon

Wednesday, August 24, 2022

3:30 pm – 5:00 pm (Central Daylight Time)

Sharon Redmon, is a SPED, GenEd teacher and AT Specialist with over 20 years of experience. She holds an M.S. in Adaptive Education: Assistive Technology from St. Norbert College and ATP from RESNA.

Includes 0.2 IACET CEUs, and/or Closing The Gap Issued Certificates of Contact Hours..

We learn language by having language modeled. Aided Language Stimulation (ALS) is an Evidence-Based Practice (EBP) in the field of AAC, and it is often one of the first strategies suggested when beginning AAC with individuals with Complex Communication Needs. In this webinar, we will learn why modeling symbolic communication is so vital to AAC users and why it is so hard to implement.

We will also learn simple techniques to teach communication partners how to implement ALS into their everyday routines and curricula in the home, community, and school environments. It may sound like an easy thing to do; however, in reality, our teachers, para's, and parents are struggling with this strategy. Model, Model, Model! Let's learn how to model with Aided Language Stimulation and make it as easy as it sounds!



Improving Your School/District AT Service Delivery Through Capacity Building

By Janet Peters and Gayl Bowser

Tuesday, September 13, 2022

3:30 pm – 5:00 pm (Central Daylight Time)

Janet Peters, MM.Ed., Independent Consultant, specializing in assistive technology, universal design for learning (UDL) and inclusive technology systems. Janet is passionate about using technology and systems change to improve inclusion and learning outcomes for students with disabilities.

Gayl Bowser, M.S.Ed., Independent Consultant, with a focus on the creation of effective, legal and high-quality service systems that encourage the integration of technology into educational programs for students with disabilities. Gayl is a co-author of the books Quality Indicators for Assistive Technology, A QIAT Companion and Leading the Way to Excellence in Assistive Technology Services

Includes 0.2 IACET CEUs, 1.5 ACVREP and/or Closing The Gap Issued Certificates of Contact Hours.

Education has changed dramatically and one thing we know is that instructional technology must be available, accessible, and integrated with AT accommodations for students with disabilities to have an equal educational experience. This brave new world demands AT leadership, capacity building, and collaboration across special and general education programs like never before.

Leadership, both assigned and emergent, are key to the development or improvement of an AT program. This webinar will explore leadership theory from the Coherence Framework as a tool to build AT program capacity and create systems change. The webinar will use a project-based approach to examine, improve and customize our models for AT services. Capacity building, which is the investment in the effectiveness and future sustainability of any program, will be a focus throughout the exploration of each of the Coherence leadership categories. Technology tools for collaboration, templates, and example processes and policies will be shared with participants..



The New StellarTrek: Leading the Way and Complementing Orientation & Mobility Tools

By Peter Tucic and Mathieu Paquette

Wednesday, September 28, 2022

12:00 pm – 1:00 pm (Central Daylight Time)

Join Peter Tucic and Mathieu Paquette for a discussion of how one can best utilize electronic navigation aids such as the new StellarTrek to further increased awareness and efficiency when traveling. Peter will spotlight how artificial intelligence can now even further augment one's orientation and mobility skillset to better understand any environment when traveling with GPS devices designed specifically for the visually impaired. This device can both assist the seasoned traveler as well as someone who may be newer to vision loss.

Solutions for Educators: Emergent Literacy at Home

Summary:

Learners with significant disabilities benefit from a collaborative team approach to supporting emergent literacy interventions. For learners with complex needs, parents and/or guardians take on a different role as their learner ages and they transition into adulthood. The nature of collaboration and communication must be individualized to meet the needs of families. Educators can use a solutions-based approach when providing resources, tools and information to support learners in the home setting.

Throughout our professional experiences as educators, we have been reminded of the value and importance of collaboration with families. Throughout the past few years, we have been part of multiple situations that have brought awareness to ways in which we could improve our communication with stakeholders. For example, during the COVID-19 pandemic, not only did the instruction of students require high levels of individualization, but the methods and practices to engage with families did as well. Educators had to provide instruction to students while working alongside caregivers supporting students in the home, to ensure that instruction was effective and meaningful. As high school educators, we have been part of Individualized Education Plan (IEP) meetings where caretakers have expressed the importance of learning to read and write. For many of our students, who are emergent literacy learners, literacy instruction should continue across the lifespan. For learners with complex needs,

parents and/or guardians take on a different role as their learner ages and they transition into adulthood. Ongoing care, support and education are typically coordinated by family members or guardians. As a result of this shift, it's important for caregivers to understand the need for lifelong, literacy learning to achieve the highest level of independence. Literacy is one of the **most** functional life skills.

Our experiences have shaped our approaches to communicating, collaborating and working alongside all stakeholders to support literacy instruction. In the article, "A person-centered approach to supporting participation by people with complex communication needs," David McNaughton and colleagues discuss the importance of building capacity within teams to support AAC users vs. the use of an expert model. We believe that these qualities are also important for effective literacy instruction.



LAUREN SHEEHAN is a special education teacher with fifteen years experience working with learners with complex communication needs. Currently, Lauren teaches in a public high school and also works as an adjunct instructor. Lauren has an undergraduate degree in special education, and dual master degrees in special education and curriculum and instruction. She also has a certificate in assistive technology. Lauren's experiences include providing comprehensive literacy instruction, supporting learners who use AAC, alternative access and assistive technology use. Lauren has presented at local and national conferences on multiple topics in special education, literacy instruction and assistive technology.



ASHLEY LARISEY is a licensed Speech-Language Pathologist and clinical educator. Ashley's work experiences include public and private therapeutic day schools, speech/language clinics, and early intervention. Ashley also serves as an adjunct clinical supervisor at Saint Xavier University and teaches a module specific to the use of technology in the field of Speech/Language Pathology. Ashley has extensive experience working with children and adults who use Augmentative and Alternative Communication (AAC) systems, and has presented at local and national conferences on AAC.



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They also share that learners need educators that have the *knowledge, skills, and attitudes* to support AAC implementation. In addition, the *Literacy Bill of Rights* (Yoder, Erickson, & Koppenhaver, 1997), provides detailed examples of basic literacy rights for all people.

KNOWLEDGE

Many different people support learners with significant disabilities. Dr. Karen Erickson and Dr. David Koppenhaver outlined the shared responsibilities between educators and family members to provide literacy rich experiences in the text, *Comprehensive Literacy for All: Teaching Students with Significant Disabilities to Read and Write*. It is important that *ALL* stakeholders share their knowledge and expertise to provide a comprehensive framework for supporting the learner.

SKILLS

Literacy instruction is best implemented when using a team approach.

Each stakeholder has different knowledge and expertise that complement one another. It is the responsibility of each team member to educate and support the understanding of others so various components of literacy instruction can be implemented effectively.

Comprehensive literacy instruction for emergent literacy learners includes the following components:

- Alphabet knowledge and phonological awareness
- Shared reading
- Shared writing
- Independent writing (access to the full alphabet)
- Self-directed reading

(Erickson & Koppenhaver, 2020, p. 8-13)

ATTITUDES

Learners need teams who believe in their capabilities and have high expectations for their learning outcomes (Erickson & Koppenhaver, 2020, p. 17). When we provide challenging and rigorous instruction, our attitudes communicate that our learners are capable of achieving so much more. Every learner deserves to have a team of champions who believe in their right to an opportunity to learn to read and write.

Educators must communicate and collaborate with families to help share knowledge and resources. Doing so will help bridge the gap between home and school as well as the application of skills as learners transition into adulthood. We are faced with implementation challenges that cannot be addressed with universal solutions. Some families will become overwhelmed with a list of strategies, a menu of tools and pages of resources. Educators have good intentions to share information in this manner

however, when dialoguing with stakeholders, this approach can be overwhelming and cause frustration. Families must increase their self-confidence, use their current experiences and knowledge to shape the current home-based literacy environment. We can support families to increase their self-confidence and demonstrate how to use their current knowledge to shape literacy experiences at home.

Follow along as we explore some real-life scenarios that have challenged families with literacy implementation in their home and the **solutions** we provide to create rich-literacy environments. While we provide specific solutions for each scenario, we find that one solution may be applicable across multiple situations. It's important to consider streamlining and simplifying solutions for caretakers and ourselves whenever possible.

Scenario One- Parents/ Guardians are unfamiliar with evidence-based literacy interventions to embed at home. There are also limitations when accessing materials and tools to facilitate literacy interventions in this setting.

SOLUTIONS:

As a team, we determined it was necessary for us to create a tool kit with supports to increase family knowledge and to provide materials for use in the home. The tool kit included a tag for a QR code to a Google Site created by classroom teachers. Fortunately, we were able to use grant money from our local education foundation to fund the literacy kits for students to bring home with them on a daily basis. The kits were created from input from the learners on preferred and high-interest items. (See image 1)

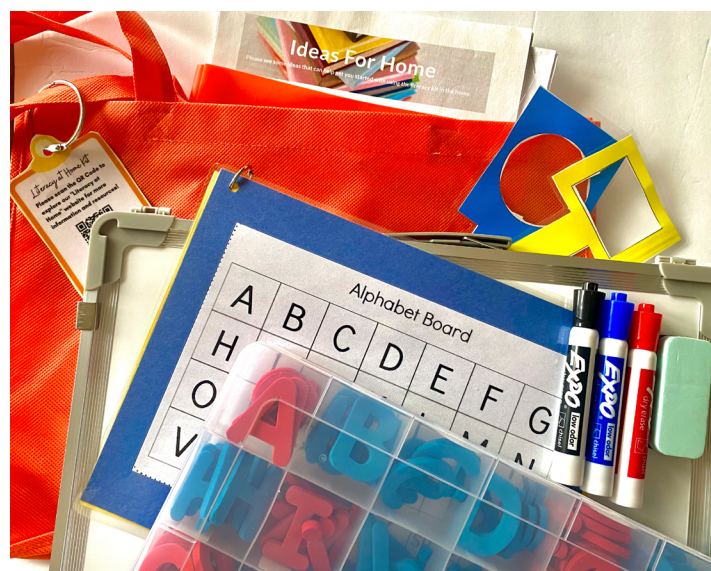


Image 1- Items within the literacy tool kit. The tool kit includes a QR code to a Google Site, user guide, letter magnets, whiteboard easel, markers, printed books, QR codes to online resources, alphabet boards, occluders and more. The alphabet board is a resource found in the Building Wings, First Author Curriculum (www.buildingwings.com/first-author).

Literacy at Home



Image 2- Google Site homepage with tabs for a simplified and structured design. Tabs provided include, "Home," "About," "Ideas for Home," "In Action at School," and "Resources and Research."

The kit provided similar materials from class that can promote literacy skills in the home setting. The kit was designed for learners to engage with familiar materials, provide a Google Site to help guide implementation and share practical ideas that can be easily embedded at home. It is important to note that the kit included resources that are universal in design, but also specific to the student population in our setting. When duplicating a literacy kit, educators must account for your student population, access methods, technology use and cultural or language preferences. Surveying learner preferences is also recommended.

RESOURCES:

Google Sites: Google Sites (www.sites.google.com) is a web application to create webpages as part of the Google Docs Editor Suite. Educators can publish and co-edit in real time, upload files, documents, embed videos, forms and more. A Google Site can provide digital access to a variety of resources in one location. Often, families are given resources in a print-based format that requires them to complete multiple steps to access information sent home. Using a Google Site can provide quick access to a variety of resources, all in one location. Simple and streamlined communication is user-friendly and provides direct access to evidence-based resources.

A Google Site can be the central location of examples and ideas presented in a visual and interactive format. Narrative language is beneficial, but families benefit from visual examples, actual ideas using materials and demonstration of how simple and quick embedded instruction can be. (See image 2, image 3 and image 4)

Scenario Two- A learner has limited access to print-based books or texts to support shared reading at home. The learner has a school-issued iPad, internet access and an AAC device.

SOLUTIONS:

Throughout daily emergent literacy instruction in school, learners engage in shared writing. Shared writing can be observed when a structured, multi-step approach (predictable chart writing) is used. The five-day process concludes with a published book from the culmination of ideas, sentence frames and photos. In the school setting, the published books become part of a class library for learners to read the repetitive text. These texts can be created in paper-based form or using technology tools. When a learner has limited access to print-based texts at home, we can use technology provided by the school to create access. To provide these texts on a single device with text-to-speech, the final stage of predictable chart writing can be completed using a platform that allows for digital creation, storytelling and sharing of a book. A final product can be accessed at home to showcase their writing experiences with family. An excitement for reading can emerge when other stakeholders engage in text that the learner has invested effort and energy to create.

When thinking about emergent readers, we want to make sure that we have access to texts that are motivating to the learner. What are they interested in? Do they prefer reading books that they can see/touch or do they prefer digital texts? Are they more motivated by texts that are personalized with family photos, favorite places, or memories of past trips? Keeping these considerations in mind can help build a home library for the learner that keeps them coming back for more.

RESOURCES:

Pictello and Book Creator: Pictello (www.assistiveware.com/products/pictello) and Book Creator (www.bookcreator.com) are app-based tools to help create interactive books and stories. Storytelling apps can provide accessible books for learners who benefit from text-to-speech tools and allows for creativity of personalized photos, images and text. The final step of predictable chart writing can be created using one of these tools, which also provides accessible texts for reading at home. (See image 5)



What is in the Literacy Kit?



Letter Magnets



Dry erase white board with markers

| Alphabet Board | | | | |
|----------------|---|---|---|-------|
| B | C | D | E | F |
| I | J | K | L | M |
| P | Q | R | S | T |
| W | X | Y | Z | SPACE |

Letter Boards

Image 3- Literary tool kit Google Site. The Google Site provided a user guide for families to access ideas and examples of embedded emergent literacy interventions. The Google Site lists materials located in the kit, such as letter magnets, dry erase white board with markers and alphabet boards.



Circle letters of items on food labels in your home.

Image 4- Idea shared on a Google Site to embed letter identification on food labels in the home. The letter P is circled with a dry erase marker on an alphabet board.

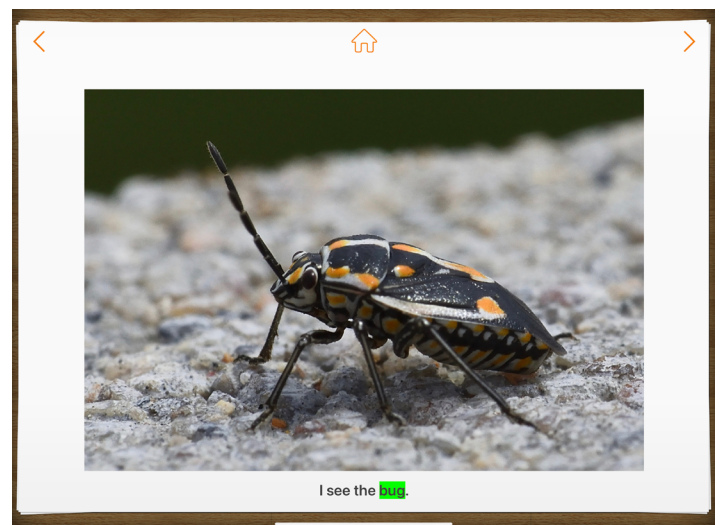
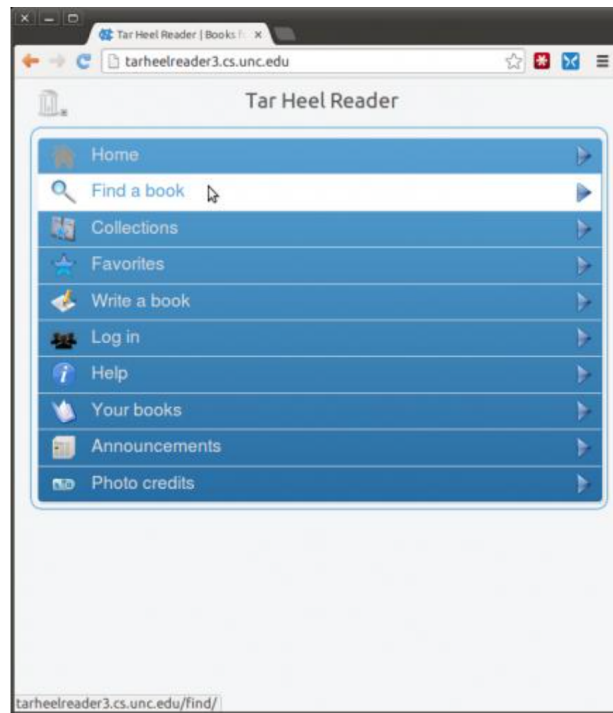


Image #5- Page excerpt from student generated text using Pictello. Page reads with highlighted text, "I see the bug."



I choose Find a book to pick a book to read.



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Image #6- Page excerpt from Help: Finding Your Way at Tar Heel Reader

Remind app: The Remind app (www.remind.com) allows for educators to send two-way messages to parents and caretakers in the form of text messages and also share announcements to a select group. An educator can easily share with the family the topic of shared writing for the day/ week. A quick message sent to families can provide a peek inside the chart writing process. Sending a picture of the final chart would be great as well!

(Example message: "Hi! Today [child's name] helped complete to write our chart on what we see in a garden. [Child's name] shared this with us, "I see a bug." We had a great discussion on all things we see in a garden!")

You can also send a message to share the text selected and read from Tarheel reader.

(Example message: "Hello, today we read the text [insert title of text] on Tarheel Reader. [Child's name] enjoyed the part about _____. Have him share the book with you tonight! We added the link to this text to the reading choices folder on his iPad.")

Tarheel Reader/ Shared Reader: Tarheel Reader (www.tarheelreader.org) is a free website with a wide collection of books for beginning readers that can be read using a computer, laptop, or exported to Powerpoint or EPUB files for printing. Tarheel Reader provides text to speech with options for customizing

page and font colors as well as options to create your own books. Books are available in 32 different languages and can be filtered using ratings, topics, and reviewed status. Tarheel Shared Reader (www.sharedreader.org) offers many of the same features as Tarheel Reader, but places an emphasis on the shared reading experience and offers communication symbol support for readers who do not yet have access to a robust communication system.

When sharing this resource, consider the preferences of stakeholders. Would they prefer to have access to printed books, e-books, or both? Do they require additional training on the use of switches to support access to texts for switch users? The text Help: Finding Your Way at Tar Heel Reader (www.tarheelreader.org/2013/02/06/help-finding-your-way-at-tar-heel-reader/) offers a step by step walkthrough of the features of the website which are helpful for students and caregivers alike. (See image 6)

Scenario Three- A learner requires alternative access methods to engage in self-selected reading at home. The family indicates they do not know how their learner can select and read books at home. The family requests resources to be able to provide their child texts on preferred topics and interests.



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SOLUTIONS:

Learners with complex communication needs often benefit from alternative access methods to engage with text. Similar methods that are used in the school setting can be transferred to the home environment. When we use the technology available for learners to access AAC systems (such as switch access, mounting and positioning tools), this provides both the learner and family with the familiar tools for reading. Educators can organize preferred topics (given input from the learner) to provide a framework and eliminate the time it can take caretakers to locate online. Educators can create a user-selected library of digital texts (many in which you can print, if needed) that can be accessed both at school and home. Providing choices and repetition helps our learners gain confidence and grow as readers, while increasing the opportunities to engage with accessible texts.

RESOURCES:

Go Talk Now App: Go Talk Now app (www.attainmentcompany.com/gotalk-now) provides flexible and personalized access to AAC, with multiple page styles and layouts. Pages can be customized with images, sounds and messages. Templates can be used to customize curriculum and literacy experiences to provide switch accessible navigation and access to hyperlinks, videos and audio. Text-to-speech capabilities are built in and additional features can be purchased. A lite (free) and paid version are available. (See image 7)



Image #7- Go Talk Now literacy choices on iPad for switch access.

Tarheel Reader: As previously shared, (www.tarheelreader.org) also provides digital text in alternative access methods. Learners can use switches, touch screens, a mouse or more to make choices of preferred texts and to turn the pages forward or backward. The Tarheel Reader website has support for using

switch access (www.tarheelreader.org/accessing-tar-heel-reader/switch-access) which is user friendly and provides support for single or double switch users. Registered site users can also save favorite books for quick access.

Unite for Literacy: Unite for Literacy (www.uniteforliteracy.com) is a free online and app based resource that contains a large library of short picture books that come in more than 50 languages. Many of the texts within Unite for Literacy contain repetitive lines (e.g. "Where do __ sleep?" "I can help __.") Repetitive lines can be helpful in providing learners with repetition with variety and allow focus on the fill-in phrase. Books have engaging photos, images and enlarged text. The website allows for the click of a mouse to turn the page or activate the text read aloud icon. A switch interface can be used for a reader to activate a switch to emulate a mouse click to independently engage with the text on the site.

Unite Books is an app offered on Apple and Android devices to provide access to books on the go. Books can also be shared via email. If using a Unite for Literacy text within the classroom, consider sharing this with stakeholders to provide additional repetition and exposure to text and increase familiarity. (See image 8, on next page)

SOLUTIONS:

The above listed scenario occurs frequently for parents/guardians. Even in optimal situations, not all caretakers are able to attend conferences, parent trainings, or other in-person events. When supporting families, it is important to remember that the amount of effort that caregivers are able to allot to learning about the importance of literacy instruction and best practices surrounding implementation may vary based on a variety of factors. What works for one family may not work for another; the same can be said for resources, time, and accessibility. Before offering solutions to these problems, consider the family dynamics. How do they prefer to connect? Do they prefer speaking to someone live or the opportunity to view/process information on their own time? How can they best follow-up with questions (e-mail, phone call, meeting)? Here are some solutions to consider depending on stakeholder preferences.

RESOURCES:

Project Core Professional Development Module: Project Core offers training videos (<http://www.project-core.com/professional-development-modules/>) for each component of emergent literacy instruction. For example, if supporting a family who is unable to connect during school hours and would benefit from developing their knowledge, Project Core modules are excellent tools for introducing parents to emergent literacy strategies in general. The Shared Reading module is a little over 14 minutes long, and provides a wonderful framework for stakeholders to follow in terms of implementation.

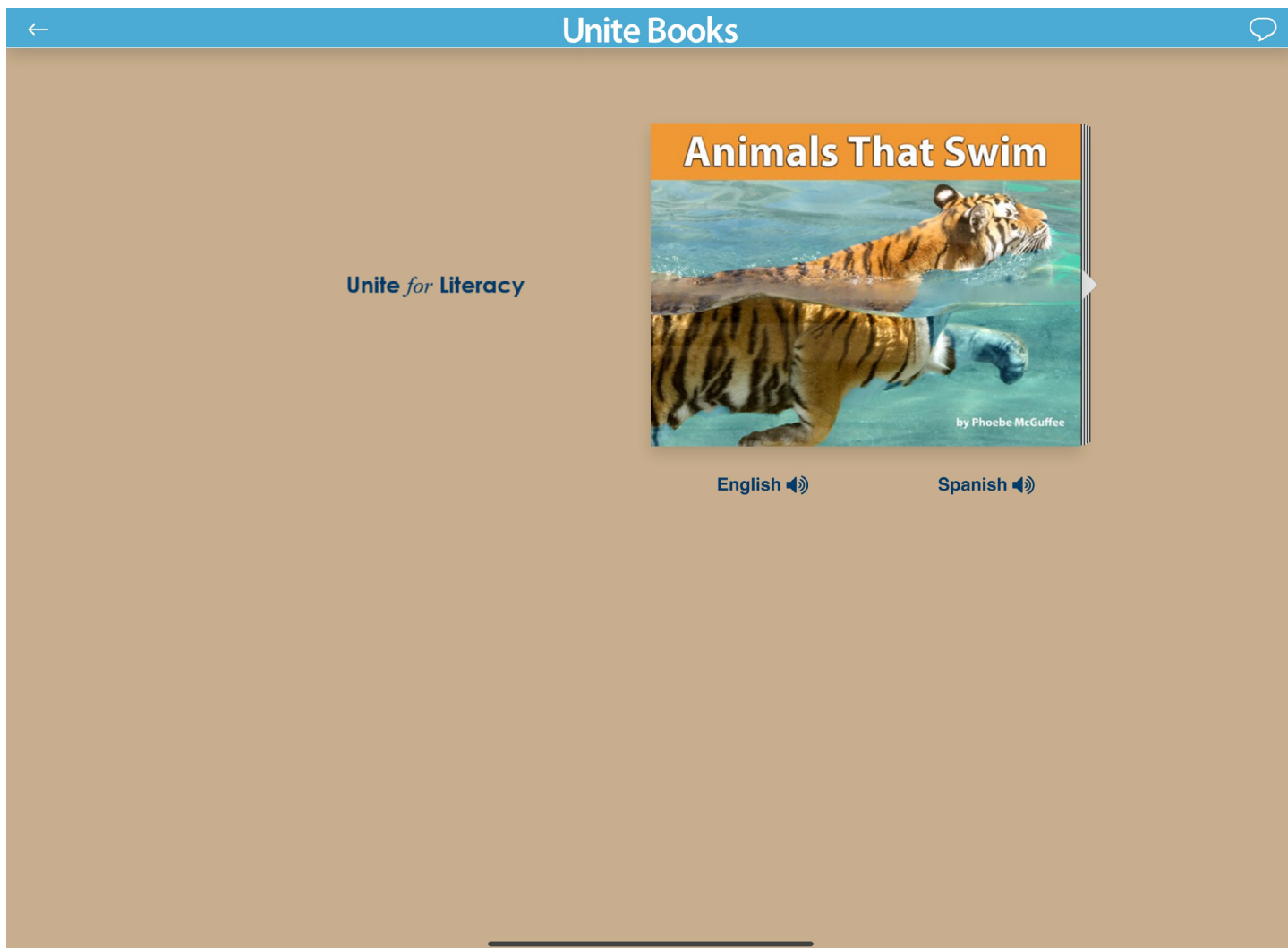


Image #8- Unite for Literacy text on iPad with read aloud options in both English and Spanish.

Loom: Loom (www.loom.com) is a great tool for recording your screen, camera, or both simultaneously for the purposes of communication and/or training. It can also be a great tool for providing feedback about specific emergent literacy strategies like shared reading. In the example below, a Loom video was created using split screen with an AAC system to demonstrate how comments can be modeled during a shared reading experience. The video was created to meet the requests of the family, who were still learning to model effectively on their child's AAC system, but was familiar with shared reading strategies. By seeing the book being read while also seeing the navigational pathways being modeled by the clinician, they were better able to understand how to model using AAC during shared reading. Loom videos are immediately attached to a custom link that can then be shared quickly without the need for additional downloading or needed space to view. (See image 9)

Zoom / Google Meet Office Hours: Web conferencing tools provide the additional visual component which helps stakeholders communicate more effectively. Instead of saying something

like, "Jorge is writing with an alternative pencil at school" when speaking on the phone, Zoom allows educators to actually *show* caregivers what this looks like and how it is used in the classroom. To explore what alternative pencils are and which may work best for a learner, exploring the website <https://www.med.unc.edu/ahs/clds/alternative-pencils/> with a family can deepen overall understanding and opens the door for clearer communication.

Scenario Five - A learner has access to a wide range of highly preferred digital books at school. The family has internet access at home, but has other children with high support needs. A list of the learner's preferred books has been provided to the family, but they report difficulty with finding the time to pull them up for the learner to access.

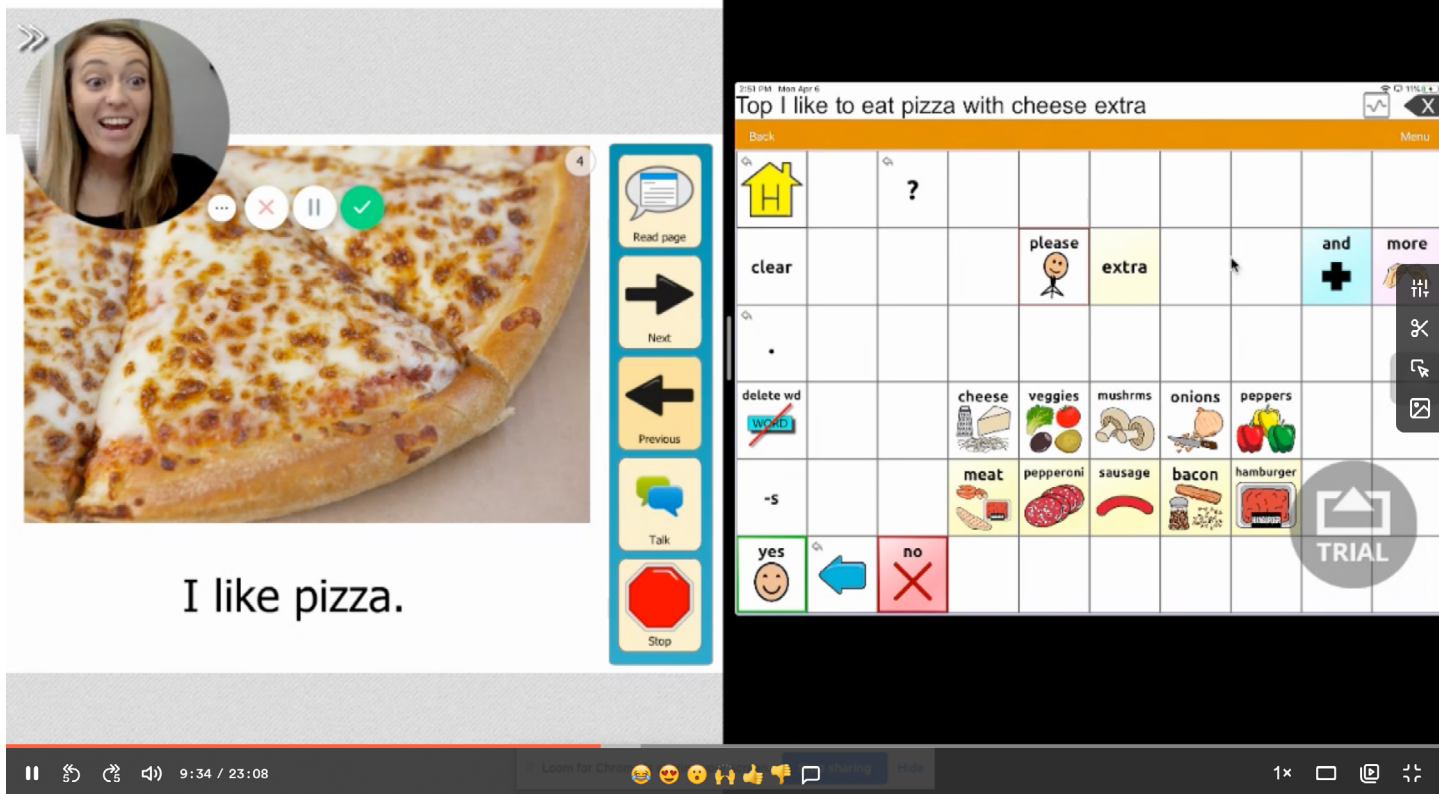


Image #9- Screenshot of Loom video with text from Boardmaker Core First and TouchChat HD with Wordpower.

SOLUTIONS:

In supporting families, we must consider the time and effort that caretakers have available in developing their knowledge as well as implementation. When caretakers do not follow through with support that we have provided, it is important to identify what about the resource didn't work, and what we could change moving forward. Instead of blaming the family, empathize with implementation challenges and identify barriers. In the above example, we have a family who has access to the tools for implementation, but needs support with access. Independent reading supports learners in developing a love for reading and intrinsic motivation. If we narrow down the goal, identify the strengths and preferences of the caretakers, and isolate the barriers, we will be more likely to provide specific, helpful support. For this example, remember that many digital texts can be printed and sent home.

RESOURCES:

QR Code generators (<https://www.qr-code-generator.com/>) are one tool educators can use for multiple purposes. In the above example, QR codes could be used to support the learner in accessing preferred texts at home without requiring adult support to access. If an educator creates a handout with QR codes that link directly to a learner's favorite books, the handout can be used consistently in the classroom and at home to support teaching the student how to access. The end goal is in-

creased independence on part of the learner, increased access to preferred texts for independent reading, and addressing barriers. (See image 10)

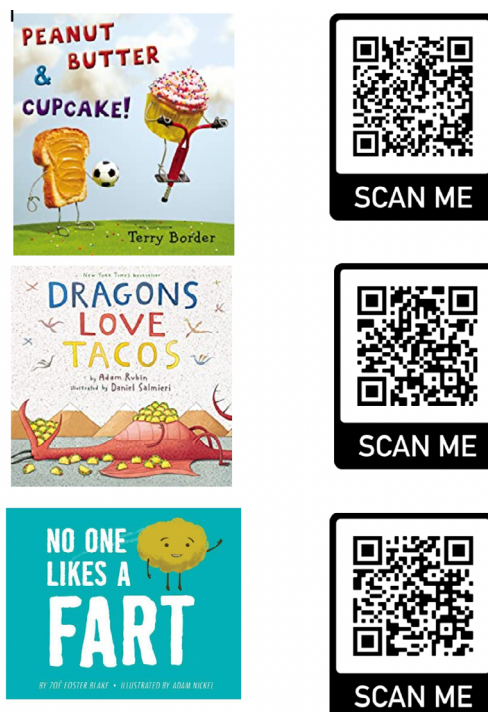


Image #10- Visual support with preferred books and QR codes that take the learner directly to the text.

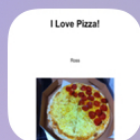
Reading Choices



ThingsPigeons...



CanYouEatThat?



I Love Pizza



Alive With Color

Image #11- Screenshot of shortcuts folder on a student iPad.

YouTube Read Alouds are a great way to get access to a large library of interactive read alouds with images from the text. Playlists can be created and sent that contain read alouds from a learner's favorite texts. However, if the intention behind sharing links is for a learner to listen to texts independently, considerations need to be made that account for safety and security when viewing. When sharing YouTube links, educators can remove ads and turn on automatic replay by inserting a dash between the "t" and "u" in "youtube" (e.g. "www.yout-ube.com/example") prior to sending the link. These links can then be turned into QR codes (above) for easy access.

Shortcuts - Creating shortcuts for independent reading supports students in independently accessing texts. In the example below, a folder titled "Reading Choices" was customized with shortcuts to a learner's favorite texts. Shortcuts can be individualized with custom images and other actions (like using Siri to launch apps or open web pages) to streamline access. (See image 11)

Scenario Six - Following the COVID-19 pandemic, a guardian expresses missing the daily interactions had with the classroom teacher and staff. They express the benefits of seeing daily instruction with their students so that they could replicate literacy interventions with fidelity in the home.

SOLUTIONS:

This was resounding feedback that we received from multiple families following the pandemic. Sometimes, it is enough to

send families to an online training to support their understanding and knowledge of an intervention. Other times, we might need to demonstrate it asynchronously. But for many, the optimal way of deepening their understanding of literacy instruction is to see someone demonstrating a strategy **with the learner**. Each student has their own communication styles, their specific strengths and support needs, and their unique interests. I'm sure many readers have sat in a training listening to presenters speak about interventions and are left thinking *how can I apply this in MY classroom?*

Although demonstrating a strategy with the learner might seem like a daunting task, it doesn't need to be. It can feel like our implementation and the responses of the learner need to be perfect in order to send a video demonstration home, but that isn't the case at all. In fact, it's the opposite. The value of showing stakeholders what we do on any given day, with varying levels of participation, responses, and engagement from the learner helps us ALL learn how to be better, and is more indicative of real life than a perfectly curated video demonstration. Keep this in mind whenever you have doubts about sending home video examples.

Another consideration for videos - they tend to take up a lot of space and take more time to send if you are sending a file (e.g. recording a video on an iPad and emailing to a parent). If possible, use tools with built-in video sharing capabilities (like Loom, listed above) to decrease the amount of time spent on uploads and downloads.



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RESOURCES:

Seesaw: Seesaw (www.web.seesaw.me) is a digital portfolio that can be used for students to upload and document their work across the school year. In some classrooms for students with significant disabilities, educators will use tools like Seesaw to communicate with stakeholders while providing pictures, videos, and examples of student work to support home-school communication. Using Seesaw, you can upload video clips demonstrating a specific emergent literacy skill (e.g. predictable chart writing) and how you support a specific learner during that activity. Videos can be private (between the teacher and account holder only) or posted to a classroom group. Be sure to have appropriate signed consents for picture and video sharing as required by your learning institution.

IN SUMMARY

Educators make hundreds of decisions each day. They also have the power to be a catalyst for change in a learner's life. Some decisions have a greater long term impact on the lives of others. Intentional and thoughtful collaboration builds momentum and excitement for all stakeholders. Emergent literacy learners benefit from all team members supporting literacy interventions across settings. The attitudes of educators to understand effective collaboration and communication with families is critical to build a partnership and relationship built on mutual respect. When we individualize support for families, we communicate an understanding of family needs which then demonstrates our investment into their child's success. Remember, you can be the champion every child deserves.

RESOURCES/ REFERENCES:

David McNaughton, Janice Light, David R. Beukelman, Chris Klein, Dana

Nieder & Godfrey Nazareth (2019): Building capacity in AAC: A person-centered approach to supporting participation by people with complex communication needs, Augmentative and Alternative Communication, DOI: 10.1080/07434618.2018.1556731

Erickson, K. A., & Koppenhaver, D. (2020). Comprehensive literacy for all: Teaching students with significant disabilities to read and write. Baltimore, MD: Paul H. Paul H. Brookes Publishing.

Literacy Bill of Rights. (From Yoder, D. E., Erickson, K. A., and Koppenhaver, D.A. [1997]. *A literacy bill of rights*. Chapel Hill: University of North Carolina at Chapel Hill, Center for Literacy and Disability Studies.)

RESOURCES:

Tarheel Reader- <https://tarheelreader.org/>
Tarheel Shared Reader- <https://shared.tarheelreader.org/>
Unite for Literacy- (www.uniteforliteracy.com)
Seesaw- <https://web.seesaw.me/>
Remind- <https://www.remind.com/>
QR code generator: <https://www.qr-code-generator.com/>
Alternative Pencils <https://www.med.unc.edu/ahs/clds/alternative-pencils/>
Loom: www.loom.com
Project Core: www.project-core.com
Go Talk Now app: www.attainmentcompany.com/gotalk-now
Predictable Chart Writing: <https://www.project-core.com/predictable-chart-writing-module/>
First Author Curriculum: (www.buildingwings.com/first-author) ■

product spotlight

Abii – The Smart Robot Tutor



Abii is a smart robot that personalizes K-5 math, reading and SEL lessons & celebrates every success.

Abii adjusts the pace and content of instruction based on student performance and attention. When a student misses a question, Abii gives step-by-step guidance on how to get to the right answer. Abii also uses her engaging personality to encourage, redirect and celebrate student successes! Fist bumps, high fives and dance parties come included.

HEAR YOUR KID'S FIRST WORDS



Designed with speech-language pathologists, Sago Mini First Words boosts your child's communication skills through fun and engaging learning games

Practice speech with playful learning games

- Mimic, repeat, master
- Curated Learning milestones
- Strengthen speech skills
- Become a part of the story

Hundreds of mini-games and activities, with new ones added monthly



LEARN MORE



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Introducing NadPen – Making Access Easy



NadPen is a stylus device that is adaptable for multiple grip positions and an interchangeable tip for use with any mobile device.

It began with a need & desire to make technology accessible to all..

"My name is Lydia Dawley, and I'm the Chief Executive Officer and founder of Click. Speak. Connect. I have Mixed Cerebral Palsy, I use a wheelchair for mobility, and an iPad to communicate with.."

"Back in 2009, I have created my own styluses because I didn't find any of the styluses that would work for me."

"The reason why I wanted to share my stylus is I want other people who might have fine motor issues to have an easier time to get access to technology because I know the struggle of not being able to push a button with my fingers."



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Let Everyone Access Technology – Small Device Big Possibilities



A 3 in 1 Next Generation Assistive Device designed specially for people with Disability to allow them to connect and control multiple devices as...

•Mouse

An upgraded 9-axis gyroscopic Bluetooth head mouse which track your head movement to pixel-perfect precision on your mobile phone, computer, tablet, or Smart TV. Experience multi-switch connectivity to click and scroll.

•Switch Control Accessory

A perfect companion to your device, in-built 'Switch Control', specially for people with very restricted mobility. Use movement (up, down, left, right) and multi assistive switches to perform multiple gestures to control your device.

•Joystick

Make your GlassOuse PRO a gaming controller and play games with adaptive switches and gyroscopic movement. Use GlassOuse APP to assign the gaming controller functions to your assistive switches:



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Pro 3 Glasses – Empowering Your Vision



NuEyes smart glasses help veterans navigate vision loss

Watching a new movie, reading a favorite book, seeing a loved one smile. Most people take these simple delights for granted, but not the one million American veterans with low vision.

James, an Army vet with severe low vision due to injuries he sustained while serving in the Gulf War, thought he would never see his granddaughter again — and he had never seen his wife's face at all. By the time they met at a Veterans Administration (VA) Blind Rehabilitation clinic, James could only see lights and shadows. Then he was introduced to NuEyes, augmented reality (AR) smart glasses technology that leverages what little vision he has left and fills in the gaps, giving him his first clear look at the woman he loves.



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Exceptional Solutions for Exceptional Students



An education software company that provides educators and clinicians curriculum and education programs that measurably improve the academic, behavioral and adaptive functioning of students with moderate to severe disabilities.

TeachTown's solutions utilize evidence-based best practices derived from Applied Behavior Analysis (ABA), improving student academic outcomes, and providing life skills that enable children with autism and related development disorders to thrive.

Who They Serve

• Schools & Districts

TeachTown's solution suite is founded on the methodologies of Applied Behavior Analysis (ABA): the only educational treatment that has been scientifically supported for students with moderate to severe disabilities, including those diagnosed with autism spectrum disorder (ASD), developmental disabilities, intellectual disabilities and emotional and behavior disorders.

• Clinicians

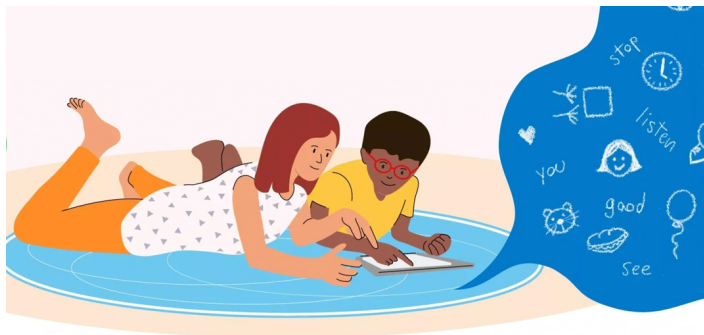
While Applied Behavior Analysis-trained clinicians are often times challenged to connect the treatment and progress made in office therapy settings to home and/or the school setting, TeachTown's solution suite records and summarizes client progress data, promoting full transparency and the ability for it to be shared with all members of a child's support team.

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Proloquo and Proloquo Coach



More than ten years ago, they set out to change the world of AAC and make it an accepted and effective means of communication. Building on more than 300,000 Proloquo2Go downloads and countless community connections, they are now ready and proud to share with you the next generation in AAC technology: the Proloquo and Proloquo Coach apps!

What are Proloquo and Proloquo Coach?

Proloquo and Proloquo Coach are a set of apps that are designed to work together.

Proloquo uses innovative design to support non-speaking children communicate and help them grow language from first words to literacy.

Proloquo Coach uses learning and practice chapters to teach parents how to use AAC to communicate and connect with their child.

With Proloquo and Proloquo Coach you are

- **Supported**

- They've designed the apps to give you clarity and peace of mind that you are always on the right track.

- **Confident**

- AAC is new and can be overwhelming – get the confidence you need to start and continue your AAC journey.

- **Connected**

- Freely share knowledge and involve those most important to you and your child.

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Facially-Expressive, Assistive Robots.



RoboKind is an education technology company using assistive technology to improve social-emotional outcomes for autistic students. Over 400 districts work with RoboKind's CASE-endorsed program which includes facially-expressive robots and SEL curriculum based on a multidisciplinary developmental behavioral approach, leveraging speech language pathology, occupational therapy, applied behavioral analysis (ABA) principles, and developed with the assistance of subject-matter experts, professionals, and educators.

Facially-Expressive, Assistive Robots

From the beginning, they designed their robots to support and meet the needs of special educators as they guide their autistic students toward social-emotional mastery.

Among the many movements they make, each robot replicates most human facial expressions and speaks 20% slower than most people. The embedded chest screen displays core vocabulary and icons, an important evidence-based practice.



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