Texas School for the Blind & Visually Impaired

Outreach Programs

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Texas Presentation by Paul Hart, Sense Scotland

Get in the Zone: Revealing the Exceptional in All of Us

# Start of film – aerial view of Isle of Cumbrae

## Title - Get in the Zone: Revealing the Exceptional in All of Us

Welcome everyone to this tale from a Scottish island. A tale told by Paul Hart who lives where the red arrow shows. And a tale that strangely involves Kylie the Dolphin who lives where the blue arrow shows.

Here we see Kylie swimming just off the coast of the Isle of Cumbrae and here we see him frolicking around with some porpoises who he has befriended in the last 15 or so years. So what can a dolphin tell us about the Zone of Proximal Development, a concept developed by the Russian psychologist Vygotsky? What can a dolphin tell us about how to reveal hidden potentials in all of us? And can a dolphin tell us anything about exploring the exceptional nature of each and everyone of us? So those are the three main ideas we are going to try to explore through today’s presentation – Get in the Zone: Revealing the Exceptional in all of us.

## Paul walking on coastal path

So what is Kylie’s story? It seems that he visited the West coast of Scotland maybe around 16 or 17 years ago and somehow he got left behind by his pod. He was frequently seen at that time with a smaller animal which was presumed to be a calf and so early observers made the assumption that Kylie was female. It turned out that Kylie was in fact a male short-beaked common dolphin and had often been seen with harbour porpoises, a smaller species hence the confusion about whether this was a mother and calf – but the name stuck and he is still known as Kylie!

So scientists had known for some time that some cetacean species have the ability to change their acoustic repertoire as a result of interactions with other species. This ability has mainly been observed in captive individuals and few cases have been reported for wild cetaceans so Kylie’s story provided the opportunity to study this ability in wild cetaceans.

A PhD student at a Scottish University, Mel Cosentino, set out to find what had been happening between Kylie and his porpoise friends. Harbour porpoises produce entirely stereotyped narrow-band high-frequency echolocation clicks with peak frequencies around 130kHz. These Clicks are used for travelling, foraging, and communication purposes. Common dolphins’ echolocation clicks are widely understudied. Available data suggests these have peak frequencies below 67kHz. Common dolphins also produce other sounds for communication purposes, including whistles and barks.

These scientists set out to investigate what happened when these two species got together.

Vocalisations of both species were recorded when interacting as well as when seen alone. Using custom-built algorithms, individual dolphin and porpoise echolocation clicks were extracted, and several parameters estimated, including amplitude, and peak and centroid frequencies. The dolphin regularly produced clicks with peak and centroid frequencies over 100kHz, centred around 120kHz, when accompanied by the harbour porpoise, as well as when alone.

No changes in the porpoise acoustic repertoire were detected. The preliminary results of this study suggest the common dolphin changes its acoustic repertoire, likely as a result of the interaction with a harbour porpoise. This is the first time the common dolphins’ ability for production learning (in the wild or in captivity) has been reported.

What does any of this story about a dolphin’s abilities have to do with deafblindness, education, professional roles? We can draw out a number of points from this and then explore each in more detail…

* Kylie has now become famous, not just on the little island where I live but in wider scientific circles. And he is viewed as a creature who is special and exceptional – and perhaps all short-beaked common dolphins can now be seen as exceptional.
* It was this research team that revealed these exceptional abilities or to echo the title of this recent publication from the Nordic Cognition Network – revealed the hidden potentials. They set out to look for specific things and they found evidence of this. And although there was nothing in the literature about dolphins demonstrating production learning, they started with a belief that this might be so. That’s a lesson for us in our day to day interactions with children who are deafblind – if we want them to become our communication and language partners, we must first see them in that role; if we want to see ourselves as excellent communication partners, we must first see the child in front of us as an excellent communication partner.

## Communication partners film

**(From TSBVI website -**  [Paul Hart: Communication Partners (tsbvi.edu)](https://library.tsbvi.edu/Play/19498)and caption file available at: <https://library.tsbvi.edu/AppWide/Content/Caption_Files/Fd115ib3.srt?v=4&token=F70B38Ej>**)**

## Back to Paul on camera

The researchers cited their results as evidence that Kylie showed production learning – he was able to produce the sounds made by another species. Now of course, we can’t speculate as to whether Kylie understands what the porpoises are communicating about but in terms of humans developing language, the linguist George Burling provides an interesting account about why comprehension of meaning must have come before production. Burling’s viewpoint allows for actions which were not necessarily intentionally communicative in their first use, nevertheless still to be understood by another. (An example of reaching for a cup…)

This comprehension / production discussion is immediately relevant for partnerships involving congenitally deafblind people. It is first imperative that one partner comprehends what the other intends when they use any movement, gesture or sign. Once comprehension happens, it is then important to produce gestures that are directed to the other. This would follow Burling’s (2005 p.88) evolutionary notion that as people ‘became better at figuring out the direction of another’s attention, better at understanding the iconicity and indexicality of instrumental signs, and better at imitation, the time would finally come when one individual might benefit by helping another to understand’.

What is most intriguing is that Kylie moved towards the ‘cultural’ language of the other species although perhaps not surprising if he was the sole dolphin in that part of the sea. If he didn’t make an effort to communicate with the larger group of porpoises then he would have had no one to communicate with. It is not our task in this current exploration to consider the motivation for Kylie in seeking out contact of another species, but we can imagine a similar scenario in our own context. What if we found ourselves surrounded by people who communicated in a different way – would we attempt to find a way to interact and communicate? And what if that person was someone who was deafblind? Would they do something similar? In my own research there was evidence that people who are deafblind go even beyond that.

In my research I charted what happened over a period of months to actions and gestures that grew out of activities undertaken jointly between a person who was deafblind and a seeing-hearing partner. Who first introduced a gesture, how did its use change over repeated use, did it stabilise in a form that could be perceived and understood by both partners? Give some examples of situations…

It was clear in the research that there is a greater motivation on the part of people who are deafblind person to be fully understood and indeed they maximised the likelihood of being understood. Firstly, they use highly motivated signs (i.e. iconic signs) that grow directly from the activity. But eventually, given the perceptual barrier to cross, with the likelihood of mismatch deafblind people quickly adapt to their partner’s preferred cultural language. For me, it felt like the person with deafblindess was trying to draw the attention of their partner to something and the easiest way to do this was by using actions that are part of the activity (‘hey you I am thinking having another drink’ – as the person stretches their hand towards the cup on the table) and as the person with deaflindness develops this gesture into a shorter, abstract form (Ruth’s sign for drink) – if the partner doesn’t come with them on that journey they can revert to some of the signs that the non-deafblind partner brought to the exchange. If we look at the communication and language approaches that are emerging from the ProTactile group in the States, then we can see that a much richer and more useful tactile language could emerge if the non-deafblind partner were to be more aware of their ZPD so that they truly learn from the

Perhaps this is because they are not in as many communicative partnerships as their non-deafblind partners. Put another way, this might suggest a somewhat controversial conclusion: that non-deafblind partners do not have such strong motivation to develop meaningful communication partnerships with deafblind people because they already have many strong communication partnerships with other non-deafblind people. In the way that perhaps the story of Kylie and his porpoise friends helped us to see – Kylie produces sounds at frequencies used by the porpoises but the porpoises did not do the same…

There is a greater willingness on the part of deafblind partners to use referential signs and gestures brought by non-deafblind partners rather than the other way around. This was surprising. But is even more surprising given the abstract nature of signs that are both understood and produced by the deafblind person. And in the case of Peter, he uses signs aimed at sensory modality that he has never had access to – vision. If he can do that then surely it is straightforward for us to join him using a sensory modality that we do have access to – touch.

So we can already see in this earlier research that perhaps not all non-deafblind partners (and these were excellent partners) arguably took enough time to learn from the experience of the person who was deafblind in a rush to get them into our world…and if we really want to unleash a communication partnerships full potential we have to take serious this idea of a **Double sided ZPD.**

**Double-sided ZPD**

Figure Graph showing concentric rings: inner most ring represents what the learner can do on their own, middle ring represents what the learner can do with support, and the outer ring represents what the learner cannot do yet.

* Vygotsky (1999) described the Zone of Proximal Development as the distance between the actual and potential developmental levels of children. This gap is bridged with the help of more competent others.
* Let’s look at some of the educational / psychological concepts and models that have been inspired by Vygotsky: Wood (1988) suggests learning is ‘scaffolded’; Rogoff et al (1998) offer the term ‘guided participation’; Tharp and Gallimore (1998) describe ‘assisted performance’ and Mercer (1995) highlights ways in which children might be guided to ‘construct knowledge’. In whatever way this learning process is described, there is an underlying assumption that the more competent other has an end-goal in mind.
* So perhaps an asymmetrical relationship that guides a deafblind person towards the language used by the communication partner is not the best model for the development of communication skills? Symmetrical relationships for deafblind people would appear to suggest a number of insurmountable barriers, so can the literature point us towards the kind of double-sided ZPD described by Brown where in any interaction there is a ZPD for the deafblind person and a parallel ZPD for the communication partner? Perhaps the seeing-hearing person has just as much to learn from and about the deafblind person as the other way around.

So this idea of a double-sided ZPD allows us to see both (or all) partners in an interaction are learning and contributing just as equally as the other. It is not about imposing language from outside, whichever partner attempts to impose it. Instead, it is about co-creating new languages in the tactile medium, languages that emerge from the contributions of both partners and are rooted in the cultural experiences of both partners.

## TSBVI film on Zone of Proximal Development

([- Paul Hart: Double-Sided Zone of Proximal Development (tsbvi.edu)](https://library.tsbvi.edu/Play/19502) and captions available at <https://library.tsbvi.edu/AppWide/Content/Caption_Files/jHe6H62A.srt?v=8&token=CDCJcB5J>)

# Revealing Hidden Potentials

* Recent publication from the Nordic Cognition Network in Relation to Congenital Deafblindness

This book argues that cognition can be found at the meeting place between people and becomes evident in the interactions between people, through activities that reveal the potentials that people have. It is not about having a one size fits all assessment tool that can provide all the answers, especially if that assessment tool has been developed against the background of what a seeing-hearing child should be able to do. Instead, this publication outlines how

* Humour and playfulness can be used to make visible the cognitive and communicative potentials of a person who is deafblind

Or

* Climbing the wall – helps reveal aspects of a young boy’s cognitive abilities

The cognitive potentials of a child become more visible if you first have a belief that they are there to be found, nurtured and developed.

## Information about Barbara, Gunnar, Dawn and Peter

And then from a young girl I met in Texas when I was here last year, I discovered and I learned that my nails look fanstastic when they are bright red.

## Film of Yesdy, Sarah and Paul (TSBVI 2020)

**34:04 - Bridge to NVC film starts when TSBVI film pauses**

Before we have a think about some of the competencies that are revealed in that film both for the girl and also for those around her, I want to first introduce a very short clip from a webinar that took place towards the end of 2020. In this webinar I am talking about the new book from the Nordic Cognition Network and I talk primarily about the potentials that are revealed in professionals as they chose to work together across many European countries. You will also hear me refer to something that happened around 1000 years ago when Scotland was invaded by men and women from the North.

## 34:52 Nordic Welfare Centre webinar clip

**(**[Revealing hidden potentials – Assessing cognition in individuals with congenital deafblindness)](https://www.bing.com/videos/search?q=Revelaing+Hidden+Potentials+you+tube&view=detail&mid=8E58BA36F7E7FF6DBF848E58BA36F7E7FF6DBF84&FORM=VIRE) – The clip I use here starts at 07:55 on the original video.

## TSBVI clip of Yesdy

So let’s return to that clip of the young girl painting my nails bright red. But I wanted to look at the potentials, not just of the girl but of the people around her and also at the level of the partnership. So a day or two after that clip was made.

*Missing transcript covers these points:*

* the importance of storytelling
* "declarative"
* her signing "mom" was declarative and it would be our fun job to figure out if she's remembering something or hoping to tell her moms about what was happening at that moment. We've been engaging her in planning to tell people about exciting events that have happened and that really seems to resonate with her.
* Paul also said she is working on categorizing people, such as male and female. These signs will improve her ability to answer questions like "You feel what?" and "Color what?" In general, having the language to categorize helps with thinking and communicating more precisely.
* she really needs to time and closeness to take in the details of a new person as opposed to how most of us can take in those details  at a glance. Someone made a good point that her focusing on those details also might help her self-regulate during the intensity of meeting someone new. Cari thought the "orange" comment might have been about his arm hair or his freckles. He might have been her first Scotsman!

And now I want to turn my attention to this magnificent book:

## An Exceptional Fellow – A Father’s Story By Svein Olav Kolset

This book can help us find language that can describe our role and our relationship with people who are deafblind, with children who are deafblind. It can help us think again about what it is to be a teacher; it can help us to find language to describe the skills and the competencies that we are discovering that children with deafblindness have. And I want to return to the moments before when we were looking at the role of who is the teacher and who is the pupil. And because this is a conference that will involve many people from the field of education, perhaps we can be mischevious and think whether teacher is the best word.

### Missing transcript about teacher and support workers

Let’s get back to this book…There are Chapters in the book entitled The Swimmer, The Skier, A Hero and his family.

Early in the book he describes the long stay in hospital in the first few weeks of his son’s life. His son is called Torgeir. And early in the book he writes about the day Torgeir had won the first battle. He no longer needed an additional oxygen supply. We could hold him for the first time since the day he was born. It was indescribable. A banality for parents of healthy children. A seven-mile stride for our little hero.

### Missing transcript

Later in the book he describes how Torgeir had an internal drive worthy of a polar explorer. And later in the chapter, the Skier, he describes from an opening line in the chapter where he says Torgeir will never become a lumberjack, he describes some of these ski-ing trips: ‘Now the trips can be from five to six hours long. The 995m peak of Snorvilen has been scaled. Not exactly Mt Everest, but Torgeir felt like Edmund Hilary.’

And one of my favourite parts of the book is when the family have moved from Norway to the States and he describes the politeness of Americans and their willingness to come up and chat. But he particularly remembers the occasions when the family found Torgeir to be a door opener and that’s a really positive statement – Torgeir was the one who could help the family make connections. It already changes how the rest of us feel about his son.

Story from Nativity Play at Logan’s Road (improvisation skills of the children – proud parents!)

## Exceptional Fellows – sequence of clips with Kayden and Dylan.

* Photo of Paul. Kayden and Dylan
* Paul and Kayden – film when he was a few months old
* Kayden flying the kite
* Dylan and Kayden flying the kite
* Bear hunts – picture in the forest
* Adventures – walk up the hill, sitting at the top of the island
* Dylan on the beach
* Kayden being an expert rock climber
* Ghost hunt – in hut, bushes, torches, light patterns
* Still photo of light patterns – boys see themselves as adventurers
* It’s the three of us in the Zone together

# Conclusion – Get in the Zone

We have been talking of course about the Zone of Proximal Development but equally it is being truly present, seeing the other as your guide and your follower, being available, being truly in the Zone.

And Revealing the Exceptional – well we could see this conference as just one example of where we can all participate as learners and teachers. And hopefully develop ourselves so that we can become better communication partners. Both visits I have had to Texas and the Zoom calls that we have had together in recent years have left me wanting to learn more, to share more, to develop more. The conversations with the team at the TSBVI are rich and fruitful and the practice from the whole team, their interactions with children who are deafblind and the willingness to continually grow and learn, are truly inspirational.

I have focused my thinking in this presentation more on the role that we can play – because only if we imagine ourselves to be capable of becoming Exceptional Communication Partners, can we be open to the learning that will flow from the day-to-day interactions we have with people who are deafblind. We owe it to all of our fellow travellers on this learning journey to equip them so that they can reveal our exceptional nature and in turn for us to reveal their exceptional nature.