

## Ideas for Promoting Generalization of Social Skills

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### What is generalization?

Generalization refers to the transfer of what is learned in one setting or situation to another setting or situation without explicit teaching or programming in the second transfer setting. In Applied Behaviour Analysis, when we talk about generalization, we are often talking about teaching skills in one setting or situation and having the person naturally start using those skills in another setting or situation. For example, if a child learns to tie her shoes with her mother at home, she will naturally be able to tie her shoes when at school in the presence of her teacher or on her own. In typical development, generalization is assumed to be natural and the norm, to be expected.

Another kind of generalization that we often talk about as behaviour analysts is the generalization of treatment effects. If in the home, a parent uses time-out to punish aggression between siblings and rewards the children for using their words to ask for what they want, we would expect to see aggression decrease and verbal requesting increase. When this happens consistently in the home and is maintained over time, we would say the intervention was effective. To say that generalization had occurred, we would have to see the children reduce their aggression and increase their verbal requesting with other children (e.g., peers in daycare) without having to set up the same reward and punishment contingencies in the daycare. From this example, you can see that even in typically developing children, generalization may not happen naturally. We need to program for generalization – that is, we need to arrange the environment so that generalization of skills or treatment effects is more likely to occur.

### Programming for Generalization

In the early years of Applied Behaviour Analysis, two prominent behaviour analysts, Dr. Trevor Stokes and Dr. Donald Baer wrote a paper on generalization (Stokes & Baer, 1977) that has guided the thinking and actions of behaviour analysts and behavioural researchers over the past three decades. After reviewing 120 studies on behavioural intervention, they identified eight general techniques that had been found effective in promoting the generalization of treatment effects, including the reduction of behaviour problems and the increase in adaptive behaviours and skills.

1. **Train and Hope:** Training and hoping that we will get generalization of social skills to new settings or situations are our typical ‘default technologies’. In many cases, social skills may generalize naturally, especially in typical child development. However, for individuals with autism and those with related intellectual disabilities, we are less likely to see generalization happen as predictably. Therefore other technologies are needed to increase the chances.
2. **Consistency of strategies across settings, people and situations:** It is common that we will first find teaching or behaviour change strategies that are effective in one setting. Then we will observe how these changes generalize to new settings or situations. If generalization does not occur, we will need to add in the effective intervention strategies to see behaviours improve or skills generalize. Although this may be common practice, it may be inefficient to wait and see if generalization will occur, especially

in working with people who have demonstrated challenges with generalization. Working from the start to have consistent intervention across different settings, people, and situations is preferred. If the same social challenges or social skill deficits are occurring in the home, school and community, parents, teachers and ASD professionals will want to work together to come up with strategies that can be applied consistently across settings. These strategies include environmental changes, teaching and prompting strategies, and behavioural contingencies. This most basic strategy of consistency will go a long way to promote generalized skills and behaviour change.

### 3. **Introduce to Natural Maintaining Contingencies:**

When we are first teaching social skills to people with ASD, they may have very little motivation to learn as they've never found social interactions very rewarding. In fact, social interactions may be confusing, anxiety provoking and aversive. So in teaching social skills, we are likely to add in some "extrinsic" rewards to establish the social skill, such as giving token rewards for approaching peers or initiating play with peers; these tokens are later traded in for a high preference activity not necessarily related to the social context. Sometimes (not all the time), it is only through the use of extrinsic rewards that we can get past the anxiety and motivate the person with ASD to engage with peers; and it is only after having lots of engagement and positive experiences with peers that the person's anxiety will reduce and he/she can begin to enjoy what most of us love about being social (such as, the pleasure of people smiling at us, including us in play or conversation, sharing high preference toys or interests). If we need to use artificial rewards to get the interactions started, we will want to fade out these rewards as quickly as possible - as soon as we see the person is starting to experience pleasure from just being with peers. Social behaviour that is maintained by these natural social contingencies of reinforcement (smiles, praise, sharing, being included, etc.) has a much better chance of generalizing to new situations because most people in the other settings will be naturally trained and able to provide social reinforcement.

4. **Train Sufficient Exemplars:** When we teaching any new skill, if we only teach with one example, we cannot expect the person with ASD to generalize the skill to novel situations. So it is important when planning your social intervention (e.g., a social skills group), that you consider how to give the person lots of practice with many different social partners, across many different settings, and in many different social contexts, real or simulated. For example, if we are teaching someone how to ask questions of a peer to show interest in that person's interests, we would want to provide a wide range of general questions and comments that can be applied to conversations with people with diverse interests (e.g., "What do you like to do?", "Do you have a hobby?", "That's interesting! That sounds fun. Tell me more", etc.). With this set of generic questions, you may then train through role play across at 5-10 examples (a.k.a., exemplars) with different kinds of interests before the person with ASD could generalize to conversing with a new person about his or her novel type of interest.

5. **Train Loosely:** We have a tendency in teaching social skills to people with ASD to use scripts to ensure consistency of training and to make it easier for the person to learn the new skill. One of the limitations in using scripts is that the person with ASD may end up sounding stilted or robotic in their responses, or get stuck and not know what to do or say when people in natural settings don't follow the training script. We need to train a wide range of responses that give the person many response options. We also need to ensure that there are lots of opportunities to practice using these options. For example, if we train the person with ASD to use several different ways to initiate an interaction (e.g., sitting beside someone and smiling at them, waving from a distance, saying "Hey do you want to play?" "What are you doing?", "That looks interesting", "Can I join you?"), they will have a better chance of finding something appropriate to say or do in novel situations.

6. **Use Indiscriminable Contingencies:** When we are teaching a new skill or trying to increase a low rate behaviour, we know that it is most effective and efficient to be consistent in reinforcing every attempt

to use the new behaviour – learning happens faster! However, the social world doesn't work that way – we don't always get rewarded every time we engage in an appropriate social behaviour. In fact, sometimes we are ignored. So how do we teach so that the person becomes resilient to being ignored or not getting what they want every single time? As teachers, it is our job to quickly move from “continuous reinforcement” to what is called “intermittent reinforcement” where not every response is rewarded. Intermittent reinforcement makes it difficult for the person to know when he or she will get rewarded. Rewarding the person randomly after several appropriate responses would make the learner more attentive and have him/her work harder to get the reward. Typically we start with high rates of reinforcement (that is, reward after every appropriate response or every couple responses) and gradually and systematically “thin” our reinforcement until the person cannot predict when the reward is coming. In social skills training, rewarding the person during natural interactions with peers may be too disruptive to the interaction. So we often use delayed reinforcement. For example, we might video play interactions or conversations with peers in natural settings (with permissions, of course!) and play the video back to the person or group later so they can identify when they were using the specific target social behaviours and get praise or other rewards; also they can see where they were not using the appropriate social behaviours and get feedback and practice on this social skill.

7. **Program Common Stimuli:** When teaching social skills in a formal setting, such as a therapy group or in a special room in a school, we will want to consider how similar or different the setting is to the generalization settings where the social skills will be needed. What are some “common stimuli” that could be included across training and generalization settings to promote generalization? We could include same peers, teachers, toys, activities, equipment, physical space, room set up, or contingencies (e.g., use of token system). The more similar the people, activities and environments, the easier it will be to get generalization in non-training settings. In fact, for people with severe challenges in generalizing, we may

want to avoid any type of simulation and only train in the same settings as where the social skills will be needed.

8. **Mediate Generalization:** Any time the person practicing social skills sets a goal for using a newly acquired social behaviour in a natural setting and then goes ahead to actually engage in that social behaviour, we can say that this was “mediated generalization”. The promise or goal setting is the mediating variable that can help to promote generalization. Mediation might involve self-report; for example, where a child states before the play session starts what behaviour she is going to engage in with peers (usually a behaviour that has just been taught) and then, at the end of the generalization session, she reports on and is reinforced if she engaged in the target social behaviour. The correspondence between saying what we will do and doing what we say is a learned behaviour that is not always present in young children; however, it can be taught through explicit reinforcement for correspondence between self-report and report from an adult observer. For example, the child might be taught to share toys and then asked to report on whether she shared her toys; if she says yes, and the teacher observed her sharing as well, she would get reinforced with praise or a tangible reward.
9. **Train “To Generalize”:** Most of the time we are teaching and reinforcing very specific target social behaviour. This could put limitations on the range of behaviours the person with ASD might engage in. If we were to explicitly ask the person to generalize (e.g., “I want to see you use what you learned today in social skills group when you are in your classroom or at recess”) and then we were to set up contingencies to reinforce trained behaviours when they happen in the non-training settings, then we are likely to see generalization. This is somewhat different than the goal setting described above as, here, we are talking about reinforcing diversity of social responses. Diversity could be related to one specific context, for example, in learning conversational skills, the person would be reinforced for saying new things or asking new questions, while repetition of a question or comment would not be reinforced. Diversity of

response could also be reinforced across various social context, for example, within a social skills group where there are many targets taught sequentially, participants can be reinforced for generalizing any of the previous targets to natural interactions. Parents in the home and community and teachers in the school could be trained to watch for and reinforce instances where any of the targeted social skills were observed.

These nine strategies for promoting generalization provide a foundation from which we can increase the chances that the social skills we teach will actually get used in real life situations. We have a long way to go in perfecting social skills interventions. The one thing of which we can be confident is that programming for the generalization and maintenance of social behaviours from training settings to natural environments will greatly increase the opportunity for sustained social growth for our clients, students and loved ones with ASD.

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Stokes, T.F. & Baer, D.M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis*, 10 (2), 349-367.

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