

How can signed singing enhance our experience of song?

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Table of Contents

Table of Contents	2
Introduction.....	3
What happened?.....	3
My reaction	4
Evaluation.....	4
Analysis.....	5
Gesture and learning	5
Gesture and Sign	6
Neuroscience	7
Voice and poetry: our brain's response to imagery.....	8
Elements of successful signed-song translations.....	9
Critical Reflection	10
Strategy	12
Conclusion	13
Bibliography.....	14
Appendix 1: Personal Development Plan	19
Appendix 2: Gibb's (1988) six stages of the reflective model (Hashim et al., 2023) .	20
Appendix 3: Ghaye's appreciative change management process (Dixon, Lee and Ghaye, 2016)	21

Introduction

Last year my community choir learned a British Sign Language (BSL) interpretation for one of our songs, which they performed while singing. I felt this improved the quality of their singing. My aim is to understand why this might be the case, and through a better understanding, to use signed singing to enhance the singing of my choir and my singing pupils.

While there is very little research into signed singing, there is a lot of research on the importance of gesture in learning (Bailey, 2007; Clough and Hilverman, 2018; Martins and dos Santos Junior, 2016; Nafisi, 2013). There is also substantial evidence for the benefits of gesture in music education in general and in singing in particular (Liao and Davidson, 2016; Martins and dos Santos Junior, 2016; Kilpatrick, 2020; Paparo, 2016; Simones, 2019).

A critical step for me was reading an article by Shewell (2020) exploring the link between poetry and body-voice work. She explained that our brain processes an image involving action as though we were performing the action. This led me to look at the neuroscience behind the way we process imagery (Kosslyn, Ganis and Thompson, 2001; Lai, Howerton and Desai, 2019; Lamm and Majdandžić, 2015; Niedenthal, 2007)

There is a further link in the way our brain processes imagery that affects the way we sing. Brown (2023) discusses the process of imagining sound to assist our bodies in rehearsing the physical adjustments required to make that sound.

My essay is structured using Gibb's reflective cycle (Appendix 2), as described by Hashim et al. (2023). I have also incorporated ideas from Ghaye's strength-based model (Dixon, Lee and Ghaye, 2016) which emphasises the power of starting the process of reflection and change from a positive experience.

What happened?

Our community choir learned to sign one song in our repertoire last year, with the help of expert BSL song signer Paul Whittaker OBE, who taught us his signed interpretation of the song. We performed the song at a choir festival and in our

summer concerts. The choir members memorised their parts and the signed interpretation, performing both together. I led by signing rather than by conducting a standard beat pattern.

There is a long history of BSL signing choirs, beginning with singing church groups (Making Music, 2017; Pereira, 2021). BSL has a different syntax and grammar to English, and lends itself to poetic interpretation (Making Music, 2017; Whittaker, 2024).

A strong motivating factor in teaching my choir a song in BSL was to increase accessibility of our concerts to a wider audience.

My reaction

I found the experience profoundly moving and exhilarating. I felt the choir's singing was enhanced particularly in ensemble, tone and intonation as well as commitment to the text and meaning of the song. The choir members' reactions were mixed. They found learning both versions of the song a challenge, which some relished, but some found daunting. The reaction of audience members I spoke to was positive; they also found the experience moving.

Evaluation

Signed singing is working well for my choir. I believe there is huge scope for channelling the effects of signed singing both for my choir and my singing teaching practice. My aim in this literature review, critical reflection and strategy exercise was to understand the reasons behind these effects so that I can harness them in a considered way.

I hoped to improve the way I present and teach signed singing to my more reluctant singers by deepening my understanding. Having a better grasp of the factors involved should inform my choice of signed songs in the future. It occurred to me that some resistance to signed singing in a small number of my older members might be linked to their reluctance to acknowledge their own hearing loss. Rather than confront them on this point, my intention is to stress the potential benefits of signed singing to us as a choir, and to our audiences, whether they are hearing, deaf or

hearing-impaired. Another factor in their reluctance is that they had to learn both the song and the signed interpretation by heart, so I also considered what might make this process easier.

Signed singing is a brilliant introduction to BSL. There is research to show that enjoyment is a strong factor in determining our willingness to learn a new language (Khajavy, MacIntyre and Barabadi, 2018). Caregivers frequently speak to infants using sing-song qualities and clear facial expression which helps infants identify and learn the linguistic characteristics of their mother tongue (Golinkoff et al., 2015). Singing assists students in second language acquisition because it reduces anxiety, aids memory and helps us understand the natural patterns and syntax of the language (Mora, 2000), all of which will also apply to using signed singing while learning BSL.

Pereira (2021) describes the many forms of signed song in the UK, with roots in church music, but now embracing protest performance, musical theatre, popular music and classical song. The Glastonbury Festival provides signed translations for many performances which make the festival more accessible (Glastonbury Festival, 2024).

Analysis

Gesture and learning

While there is very little research into signed singing, there is a wealth of literature on the use of gesture in education. As an example, Clough and Hilverman (2018) report on a study where children scored better in tests when taught an abstract mathematical concept using hand gestures than children taught without gestures.

Gestures are ubiquitous in the choral world. Many ensembles use gestures to assist in musicianship training and in singing technique (Bailey, 2007; Liao and Davidson, 2016; Martins and dos Santos Junior, 2016). The solfege hand signs used in Kodaly methodology also assist in musicianship and intonation (Bowyer, 2015). Bowyer also explains that there is a unique hand sign for every step in the diatonic scale, and the gestures create a kinaesthetic framework for the relationships between the notes. Liao and Davidson (2016) explain a system for assisting children with intonation by

associating patterns of vocal pitches with matching patterns of gesture, so that the pitch and gesture patterns are stored together in memory and embed the sensations required to pitch the pattern correctly. The authors also describe how sweeping gestures countering the direction of the phrase can be used to reduce any tendency to sing sharp or flat.

Conducting provides a repertoire of gestural language for entries, cut-offs, dynamics and style that are universally understood by choirs (Kilpatrick, 2020). Martins and dos Santos Junior (2016) reported on a study that showed the conductors' gestures improved tone and intonation for a group of amateur singers. Holst (1973) described how the size of the beat can express changes in dynamics, and how the flow of the beat can indicate whether a piece is legato, marked or staccato, as well as more subtle nuances of expression. Similarly, Durrant (2009) describes the way the conductor's gestures communicate tangible elements such as entries, cut-offs and pulse, as well as less tangible aspects of musical expression. McElheran (2004) points out that, given contradictory vocal instructions and conducting style, choirs and orchestras will find it difficult to ignore the conductor's gestures. Nápoles, Silvey and Montemayor (2021) explain that the most positive responses to conductors occur when their gestures and facial expressions combine to communicate the expression in the music.

Singing teachers use gesture, their own and the student's, to demonstrate physiological functions, allow visualisation of the sensations of singing and to describe musical ideas and expression (Nafisi, 2013; Paparo, 2016; Simones, 2019). With the development of our understanding of the mechanisms of the voice, there has been a reaction against abstract images and gestures traditionally used to explain them, as an image may not have the same interpretation for the student as for the teacher (De Lillis, 2021). Brown (2023; 2024) suggests using student-derived images or gestures to create a clean pathway between the action or sensation of singing in a particular way, and the image, avoiding a mismatch between the teacher's description and the student's experience.

Gesture and Sign

Before looking at the way gesture is processed by the brain and how this might affect our experience of signed song, it is useful to be clear about some important

differences between sign and gesture (Goldin-Meadow and Brentari, 2017). Goldin-Meadow and Brentari (2017) explain that we now understand that sign language is a complete language with its own linguistic structures, while gestures function alongside either spoken or signed language in a complex relationship which has been debated in the recent past. McNeill (1985) was one of the first to argue that gesture is part of the same computational process as speech, rather than an entirely separate process, and can add imagery to the words we use. This sparked some debate about exactly when and why we use gestures. Butterworth and Hadar (1989) discuss a variety of ways in which we use speech and gesture, and argue that there are multiple ways that the process of communication is shared across them.

Goldin-Meadow and Brentari (2017) discuss the role gesture plays in adding imagery to both spoken and signed language. They explain that gestures can add meaning to signs in a variety of ways, through facial expression and through slight variations in the way a sign is performed. I understand this to mean that in a similar way to a conductor conveying a softer dynamic through reducing the size of the beat pattern, the scope and location of signs within a song can add depth and meaning to our perception of the song.

Neuroscience

To understand how we respond to signed song, it is helpful to look at the evidence from neuroscientific research that we interpret mental images using the same neural pathways as used by the associated actions (Lima, Krishnan and Scott 2016).

Kosslyn, Ganis and Thompson (2001) describe how advances in neural imaging have enabled neuroscientists to compare brain activity during perception (direct stimulation of the senses) with brain activity when responding to mental images. They explain that areas of the brain involved in hearing, seeing and performing actions are also activated when we imagine hearing, seeing or moving; for example, if we hear the start of a piece of music, then imagine it continuing, the portions of the brain that interpret auditory messages are active in both processes.

Similarly, neural imaging shows that we process a metaphor relating to action, such as grasping, using the same parts of the brain as we would to perform the action (Lai, Howerton and Desai, 2019).

If we imagine a phrase before singing it, we activate the same neural response as physically singing, a form of mental rehearsal (Brown, 2023). Some elite athletes use a similar preparation technique, for instance visualising a martial arts match (Piepiora, Witkowski and Migasiewicz, 2017).

We respond to the words and actions of others in a similar way, using the mirror neuron system. Mirror neurons fire both when we perform an action and when we observe others perform it, and when we feel an emotion or observe emotion in others (Lamm and Majdandžić, 2015). We interpret the emotions of others based on their expression and gesture and we expect their body language to align with their language (Niedenthal, 2007). Lamm and Majdandžić (2015) explain that this neural response to what others do or feel enables empathy, our ability to share, at least partially, someone else's feelings.

Our brains are built to respond very strongly to a combination of song and gesture, particularly when that gesture expresses the same ideas and emotions as the song (Shewell, 2020). This will apply to those performing and their audience (Kosslyn, Ganis and Thompson, 2001; Lamm and Majdandžić, 2015).

I believe there may be scope for using signed singing to address the needs of hearing singers, particularly those who are neurodivergent, or who experience Music Performance Anxiety. (MPA). Students with ADHD find it hard to focus on a single task and ignore what is going on around them (Swanson, 2007). Signed singing gives them multiple ways to address their attention to the song. Students with MPA may also benefit from using signed singing interpretations because of the way it engages so many aspects of the brain. Flock (2021) describes the issues for singers of tension and self-criticism. While she proposes various other solutions, signed singing could help address these issues by diverting attention from self-criticism and increasing positive mindfulness.

Voice and poetry: our brain's response to imagery

As voice teachers we generally use voice to mean, "the sounds that are made when people speak or sing" (Cambridge Dictionary, 2024). Looking at poetry, we are interested in a different definition, "an important quality or opinion that

someone expresses, or the person who is able to express it” (Cambridge Dictionary, 2024).

An article by voice specialist Shewell (2020) on voice and poetry explores the way image, sound and gesture in poetry work together to elicit a profound response using our neural connections. She describes how poetry speaks to us at a deeper emotional level than prose, because it is rich in images, metaphors, rhythm and pulse, silences and words that mimic the sounds they describe. As we have seen, this type of language will trigger the mirror neuron system (Lamm and Majdandžić, 2015) and enable us to share the experience and emotions of the poet.

Because sign language is a language of gesture, it embodies metaphor and visual descriptors, so it makes sense that we will respond to sign language as we respond to poetry, in a heightened emotional way. This is what audiences report (Dee-Sign Choir, no date; Pereira, 2021; Whittaker, 2024).

Signed singing is an ideal and enjoyable way to introduce learners to the syntax and vocabulary of BSL, which promotes language learning (Khajavy, MacIntyre and Barabadi, 2018). Music emphasises and slows the syntax and vocabulary of a new language, in the same way that caregivers employ a slower, sing-song tone to speak to infants absorbing their mother tongue (Mora, 2000).

Elements of successful signed-song translations

Signed song should respect the languages of the text, the music and BSL in its interpretation (Whittaker, 2024). BSL has its own syntax, generally more concise than spoken English. This allows for a translation where the signs align closely with the pulse of the music, so that the musical elements of the original song are preserved (Pereira, 2021). A good translation preserves the musical elements of pulse and rhythm, dynamics, tempo and style (Whittaker, 2024).

There are additional challenges to creating successful signed translations. The syntax of English and BSL works differently, which means the word order may be switched to convey the same meaning (Making Music, 2017). Sometimes the song is not in English to begin with, adding a further layer to the translation (Whittaker, 2024).

Pereira (2021) points to the possibility of cultural appropriation when hearing translators interpret songs. It should be remembered that BSL is a separate language and belongs to a separate culture. A signed interpretation should respect that perspective. Another ethical consideration is that there are some members of both hearing and deaf communities who are resistant to the idea of deaf people interacting with music, which they see as a primarily auditory experience (Pereira, 2021; Whittaker, 2024).

Going back to the common ground between poetry and voice (Shewell, 2020) it is informative to look at BSL poetry, which has some common ground with signed song. The elements that define poetry include form, rhythmic elements and a function of expressing emotion (Sutton-Spence and Machado, 2019), elements which they share with song. These are qualities shared by signed song, another BSL art form. Sutton Spence and Machado (2019) refer to an online anthology of BSL poetry. I have selected Johanna Mesch's Kayak (signmetaphor, 2015) as an example of a BSL poem that uses the musical elements of rhythm, pulse, imagery, clarity and communication with the audience in a similar way to signed song.

Critical Reflection

I have structured this essay using questions from Gibb's reflective cycle (Hashim et al., 2023) shown in Appendix 2. This model provides a framework that has proved useful in a variety of environments,

There are useful insights to be drawn from Kolb's 1984 experiential learning theory (Kolb, 2014). The author points to the iterative nature of learning and explains that reflecting on learning allows us to look at new information from a different perspective, engaging a different part of the brain and so deepening our grasp of the material. Kolb and Kolb (2018, p. 11) point out that "learning how to learn" should be integral to the teaching and learning process, an idea I found repeated in McAteer and Dewhurst (2010). This article reinforced my belief that as teachers we can continually reflect on which aspects of our teaching are successful and which aspects we can adapt to the evolving needs of our students.

I first thought about what happened with our experience of signed singing. The section above titled *My reaction* explained how I felt about this. *My evaluation*

discussed the positive aspects I would like to build on, and where I feel there is room for further action. The *Analysis* section looks at research relevant to this experience to understand the underlying factors and looks at ideas that I can take forward in conclusion. *Strategy* delineates my action plan drawing on my reading, and steps I can take to further my understanding.

My approach is informed by the perspective of Ghaye's appreciative change management process (Dixon, Lee and Ghaye, 2016) as shown in Appendix 3. This model starts from strengths as a springboard for empowering creative, positive change. They cite the effectiveness of optimism and resilience as motivators for reflecting and learning. My experience of using signed song with my choir was overwhelmingly positive, so using a positive lens to effect change resonated with me. In my evaluation, I began by asking what was working well. In my analysis, I thought about what changes were needed and what I was learning through my literature review. In my strategy, I looked at how I can build on this understanding.

I found it extremely useful to delve deeper into critical reflection. I was impatient to dig into strategies to implement at first, but my reading made me aware of the potential for deeper reflection in honing my teaching style (Swanwick et al., 2014). Swanwick et al. (2014, p. 1) used the phrase "Following Alice" in their title to stress that reflection should attempt to question our assumptions critically rather than just reflect them back to us.

Indrašienė et al. (2023) discuss the value of critical reflection giving us a means to evaluate our underlying assumptions about a field by widening our perspective. I had an assumption that critical reflection would lead me to understand the strengths and weaknesses of my own teaching better, but I have come to understand that critical reflection is at its best when it involves interaction. I was particularly struck by the article by McAteer and Dewhurst (2010) describing a research project on the use of reflective journals for students. While these students were initially resistant to the additional work involved, those who engaged with the project found it taught them about the process of learning. They were able to take greater responsibility for their learning and give valuable feedback to the teacher.

I have become more aware of deaf culture and the danger of cultural appropriation in my exploration of signed singing. Pereira (2021) has some useful insights into this

aspect of signed singing, and the importance of recognising signed language as a means of expressing unique deaf culture and perspective. She explains that while translations can vary between sticking as closely as possible to the original lyrics to expressing a more creative, deaf-centred approach, deaf people are rightly angered by poor quality translations, or translations that ignore deaf perspectives.

Strategy

I have created a personal development plan to build on what I have learnt through this essay (Appendix 1).

- Neuroscience: Looking more deeply into the neuroscience behind gesture in communicating through signed song has made me even more enthusiastic about the strengths it offers. BSL adds to communication of the text and the music, when a successful interpretation is performed (Making Music, 2017; Pereira, 2019; Whittaker, 2024). There is a lot of literature on this topic, and I will continue to investigate the neuroscience behind gestures and our responses to them.
- My own BSL skills: I will look at improving my BSL skills through belonging to a signing choir and seeking out signed performances of other kinds.
- Signed song choices: In future I will look for songs for my own choir where the music, the text and the BSL align as closely as possible, which should benefit choir members and audience. Similarly, a steady pulse with signs changing on the pulse is easier to sign than a translation with a high density of signs or a fast tempo.
- Separate the strands of learning: Teach signed interpretation separately to learning to sing the song, and only combine them once both are secure
- Future research areas: Using signed song to engage neurodivergent singers or those who experience musical performance anxiety.
- My own teaching practice: I will continue to explore critical reflection both to improve my own teaching skills and to empower my students to become self-motivated, independent learners.

Conclusion

Because gesture is closely linked with imagery and communication (Kosslyn, Ganis and Thompson, 2001; Lai, Howerton and Desai, 2019; Lamm and Majdandžić, 2015; Niedenthal, 2007) signed song enhances the singer's experience of the song, and that of the audience. There are similarities between a BSL signed song and BSL poetry, in the way they express the voice of the poet or composer through the performer (Shewell, 2020; Pereira, 2021).

As well as giving us a unique insight into the way deaf people experience music, BSL signed song enriches our experience of the music and the words (Dee-Sign Choir, no date; Making Music, 2017; Whittaker, 2024). There is scope for further research into how we can use the power of connecting gesture and meaning in this way to enhance our singing. Signed singing improves accessibility of choral music for deaf and hard of hearing communities, even those who are not fluent in sign language. It is an invaluable tool for those learning BSL (Golinkoff et al., 2015; Khajavy, MacIntyre and Barabadi, 2018).

We learn most when we are enjoying our learning (Khajavy, MacIntyre and Barabadi, 2018), and I will continue to share my enjoyment of signed song with my choir and my singing pupils.

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Appendix 1: Personal Development Plan

Objective	Activity/ action	Potential benefit	Target completion date
Deepen understanding of neuroscience behind gesture and voice	Seek out further reading		Before module 3
Improve BSL skills	• Source more videos or live performances of signed song and poetry • Continue as member of signing choir	Better understanding of BSL structure and syntax	Ongoing
Improve signing experience for those of my choir who are unwilling	Examine reasons for reluctance – memory challenge, stigma of admitting hearing loss? Choose songs that will best suit my choir.	Enhance understanding, connection and performance of signed songs	Current choir session
Look at use of critical reflection for my students	Encourage discussion of learning process	Empower students as independent learners	Ongoing

Appendix 2: Gibb's (1988) six stages of the reflective model (Hashim et al., 2023)

1.Description: What happened?	What, where and when? Who did what? What did you do/read/see/hear? In what order did things happen? What were the circumstances? What were you responsible for?
2Feelings: How did you feel?	What was your initial gut reaction, and what does this tell you? Did your feelings change? What were you thinking?
3.Evaluation: What was good or bad about the experience?	What pleased, interested or was important to you? what made you unhappy? what difficulties were there? who/what was unhelpful? Why? What needs improvement?
4.Analysis: What sense can you make of the situation?	Compare theory and practice. What similarities or differences are there between this experience and other experiences? Think about what actually happened. What choices did you make and what effect did they have?
5, Conclusion: What else could you have done?	What have you learnt for the future? what else could you have done?
6. Action Plan: What will you do next time?	If a similar situation arose again, what would you do?

Appendix 3: Ghaye's appreciative change management process (Dixon, Lee and Ghaye, 2016)

To appreciate	What's working well?
To imagine	What needs changing?
To design	What are we learning?
To act	Where do we go from here?