An analysis of how metalinguistic terms are realised in British Sign Language in the context of teaching English to deaf learners.

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Abstract

This study set out to investigate how teachers of English to deaf sign language users refer to metalanguage in the classroom, and more specifically, how these terms might be realised in British Sign Language (BSL). The study was structured in two phases. The first and longer phase of the study involved an initial round of interviews and a targeted elicitation task using a word list of 87 metalinguistic terms. How the participants expressed the terms in BSL was captured on video and analysed using ELAN, a multi-media annotation software designed for the creation of time-aligned text annotations to audio and video files. The elicited ways of expressing metalinguistic terms were subsequently re-created by two deaf presenters, unconnected to the study, for the purposes of sharing the data back to the participants to prepare for the second phase of the study that sought participants' reflections and observations. The data evidenced considerable linguistic variation and motivation in terms of how metalinguistic terms were articulated. Many variants evidenced strong visually motivated form-meaning mapping (iconicity and transparency), while some were more arbitrary in nature. Some variants demonstrated borrowing from English, through fingerspelling, loan translations and mouthing. Others provided evidence of semantic change (broadening) by using signs from other contexts, and some terms were realised using multiple signs that served as an explanation of the meaning. A considerable number of variants evidenced multiple features/motivations. The investigation was framed as practitioner research and as a collaborative enquiry. In addition to exploring the issue under investigation, the study simultaneously set out to establish a community of practice comprising of teachers of English to sign language users, willing to work together as a collaborative enquiry group to explore future research.

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

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Impact statement

A catalyst for this study was a genuine desire to collaborate with others, reduce feelings of working in isolation and help establish a community of practitioners who could share ideas and be willing to engage in future research. To support this, I established a collaborative enquiry group called TESLU (Teaching English to Sign Language Users), for practitioners working in contexts where English is taught to deaf sign language users. Although in its infancy, membership of the group is growing and I am excited about taking this forward on completion of the EdD. TESLU presently has an online space by way of a google classroom and those who are interested and have a google account can join using the following code: gtsdnsw.

It is important to stress that it was never my intention for it to serve as a glossary. The study was not about proposing signs and the participants and I agree that some are effective and useful while others are perhaps less so. In essence it was a preliminary study, inspired by the work of the BSL Glossary Project, that set out to elicit from the professional community what signs are currently in use.

It is my hope that the data and the conversations generated can serve as a foundation for further research. Potentially, this could be a glossary of signs for terms pertaining to English language teaching in the future, one that can be deaf-led with deaf sign language linguists and subject specialists. Hiring two skilled deaf presenters to re-create the data means the elicited signs can be accessible to others outside of the study. Therefore, data collected from this study are freely available to assist with such future research. Members of TESLU can access the data in the “classwork” section but a link can be provided to anyone who is not a member but would like to view the

videos. To obtain the link, individuals can contact me personally or alternatively they can contact the British Association of Teachers of the Deaf (BATOD) or the Scottish Sensory Centre (SSC).

Although the collected data does not serve as a glossary, videos of the elicited signs are being used as a provisional resource by teachers and teaching assistants (including trainee teachers of deaf learners), interpreters and communication support workers. One notable example was supporting the work of the Oak Academy, an organisation that developed an online classroom made by teachers to support online learning in the UK. It created a number of online lessons and resources to support teachers, learners and parents impacted by Covid-19. The Oak Academy was keen for the lessons to be made accessible to sign language users and so in collaboration with ITV's Sign Post a team of 20 qualified sign language interpreters were recruited to translate over 1200 online lessons. The beginning of the project coincided with the data from this study being made available online and so the interpreting team were able to access the videos to assist with translating the English lessons.

An overview of the study and the findings was presented in November 2020 to The Centre for Deafness, Cognition and Language (DCAL), a UCL research centre that aims to maximise the benefit to society from its research. Additionally, the findings were presented to The Association of Sign Language Interpreters (ASLI) at one of their monthly webinars in December 2020 and an article outlining the study was published in the British Association of Teachers of the Deaf (BATOD) journal (Aldersson, 2020). Additionally, a webinar for communication support workers working in classes with sign language users was given in March 2021 that gave focus to talking

about English in BSL. I have been invited to present my research to the Scottish Sensory Centre (to which the BSL Glossary Project is affiliated) as part of a webinar in November 2021 and I am looking forward to sharing and discussing my work.

A collaborative investigation into how teachers of English to sign language users refer to metalanguage, the language to talk about language, has not been undertaken before. The main impact of this study is that it started a conversation between teachers. I think conversations were already happening but in isolation and this study changed that. I hope that by collaborating on this project, it benefits all who are passionate about the crucial role that British Sign Language has to play in meaning-making for deaf learners of English.

Reflective statement

While the previous statement gave focus to the professional impact of the thesis, this statement reflects on my learning over the course of the programme and considers my experiences on the Doctor in Education programme. The term “journey” to describe one’s experiences is a cliché. However, I know I have travelled far, metaphorically speaking. To begin to articulate how this programme has developed me professionally, and personally, it feels important to give some brief context regarding my early educational experiences. I never imagined I would one day undertake a doctorate degree, nor an undergraduate degree for that matter. I attended a state comprehensive school in Yorkshire, England, in the 1980s and my school years were during the time of the British Government’s Section 28. For LGBTQ+ persons, school under Section 28 was often a miserable place. This, and undiagnosed hearing loss, contributed to a difficult time at school. My learning experiences were not good and I was neither supported or encouraged by my teachers. I could not wait to leave and I did so at the age of 15 with no qualifications.

Despite that, I have always been industrious and I managed to find a job and entered the world of work. I developed an interest in British Sign Language as a teenager and I was inspired to learn after meeting the deaf parents of a family friend. I moved to London aged 19 to study BSL at the City Lit, where I now work as a teacher of English to deaf adults. After completing my undergraduate degree in Sign Language Interpreting/Deaf Studies aged 28, I then competed a Master’s Degree in Applied Linguistics in my 30s. Then in my 40s I completed a second Master’s Degree in Language Teaching. Additionally, I completed a Postgraduate Certificate in Education

and qualified as a teacher in both secondary education and for the post-compulsory sector.

I applied to the programme because I wanted to further develop myself professionally and academically. I am passionate about my role as an English teacher to sign language users and the role that BSL has to play in meaning-making. The structure of the EdD appealed to me which comprises of a taught element in the first year, followed by the IFS in the second and third year and the thesis in years four and five. As I now reach the end of my doctorate studies I can say that it is a truly great programme. It is well organised and structured and I have been supported so very well by two excellent supervisors and the module tutors. It is in stark contrast to my earlier educational experiences, and I am left feeling inspired.

The Foundations of Professionalism module set the scene for helping me reflect on what it means to be a professional. It served as a strong foundation for the rest of the degree as I developed a new identity, not so much as a professional researcher, but as a researching professional. It is why I was drawn to framing all that I did with the IFS and the thesis as practitioner research because I was both practicing and researching. Crucial to a professional doctorate is reflection. Cunningham (2018) addresses required reflection as part of a professional doctorate. He proposes that contrary to the idea that identity formation is a feature of the early stage of a professional's life, it is something that constantly evolves. Moreover, he explains (p. 5) that "This evolution is fundamentally buttressed by the ongoing reflection promoted by the major opportunity for professional learning that following a professional doctorate represents." This has absolutely been my own experience. Barnett (1997, p. 134) suggests that critical thinking should really be about "critical being", which

encompasses critical thinking, action and self-reflection. He proposes that critical thought is integral to higher learning suggesting that the critical professional has a duty to speak out because of his/her “socially sanctioned authority to pronounce within a particular domain of knowledge and action”.

The shift in my professional identity and a deeper understanding of what it means to be a professional was most definitely due to the Foundations of Professionalism module. In particular, it was through engaging with the assignment, exploring definitions of deprofessionalisation, I realised that core to my professional identity was the need to have a certain degree of autonomy and discretion with regard to what I do in the work place. I sometimes struggle with this in my professional life because I like to try out new things and explore. My focus wants to be on research and the development of new teaching and learning strategies and materials and yet the demands placed on me by line managers, obsessed with documentation and evidencing, pull me away from this. Stephen Ball (2008, p. 56) encapsulates my professional experience when he states that we are required to spend more time ensuring we account for what we are doing rather than actually *doing* it where we are to acquire “skills of presentation and inflation, making the most of ourselves, making a spectacle of ourselves.” It results, he says, in us become “transparent but empty” and “more calculable than memorable”. I am addressing all this because it was writing this assignment and engaging with the aforementioned issues of deprofessionalisation, autonomy and discretion, and regulation and control that something changed. I was no longer just a teacher but a professional, with something to say.

Cunningham's article on required reflection as part of a professional doctorate (2018) concludes with a question posed by a student (p. 12) asking if the increase in accountability and the transfer of autonomy from practitioners to line managers/supervisors, together with tighter regulation and control, constitutes deprofessionalisation, or if this actually makes us more professional. The student proposes that the reality is probably a bit of both involving a number of variables and blurred lines. Rather than definitive answers, the student concludes, it only opens up more questions. This question had resonance and felt somewhat familiar. It should, because the student who asked that question was me, sourced from my Foundations of Professionalism assignment.

The Methods of Enquiry modules involved acquiring new knowledge pertaining to research and some of the terminology, philosophical approaches and methodologies. This was challenging and at times I struggled to make sense of the true meaning of some of the labels. If I am honest, five years later I am still not entirely cognisant of all of them but I do have a better understanding than I did initially. One of the tutors suggested that developing a philosophical stance with regard to research as a whole is potentially counterproductive and that it might be better aligned to the project rather than the researcher as an individual. This advice was particularly helpful.

Despite the challenges, as a result of my learning from the Methods of Enquiry modules I was able to submit successful proposals for both my IFS and thesis and subsequently design and conduct two research projects. The IFS is one of the great strengths of the EdD programme. A comment by one of the tutors on the first of the Methods of Enquiry modules proved fortuitous to me. I was struggling with the concept of a theoretical framework and it felt a bit elusive and I did not feel that I had one. She

asked me some questions and based on my answers suggested that on the contrary I did. I had explained that I was particularly interested in the role of British Sign Language as a scaffolding language to support deaf adults' acquisition of English. She mentioned translanguaging and I was excited to learn that there was a whole theory of language for me to explore further, one that described exactly what was going on in my classroom. The IFS helped clear a bit of the fog and ultimately served as a stepping stone towards the thesis. I am proud of the IFS and the research that my learners and I did together exploring our language practices.

There is no doubt that undertaking the programme has had a positive impact not just on how I see myself but also how others see me. Since starting the programme, I have been asked to present my research to others, most recently the Scottish Sensory Centre to which the BSL Glossary Project is affiliated, I have written two articles and have refereed another. I contributed to a study undertaken by researchers at Heriot Watt University (Emery & Eyer, 2020) which explored deaf migration through an intersectionality lens and facilitated access to my classroom so the researchers could observe teaching and learning and interview some of my learners. Through a connection with one of the researchers I was subsequently approached by the University of York and asked to write a chapter of a book, aimed at an international audience, that will give focus to teaching English as an additional language in specialised contexts for which I will discuss teaching English to deaf learners.

More recently, I have been contacted by the editorial board of the DELTA journal in Brazil, following a recommendation by Li Wei whose work on translanguaging inspired me. I intend to use my IFS "Deaf adult learners and their teacher: Knowledge

construction and making meaning through the lens of translanguaging and semiotic repertoires" as a case study. It is exciting, validating and daunting all at the same time.

It is easier to comment on how undertaking the doctorate has impacted on me and my professional life and somewhat more difficult to reflect on how my learning has impacted on my fellow practitioners and my learners. With regard to the latter, I encouraged my learners to feel involved with my IFS and I endeavoured to make it collaborative, as I did with the thesis and my fellow practitioners. I stressed to my learners that their involvement in my study has contributed to an understanding of how a translanguaging approach to meaning-making can be conducive for teaching and learning. I hope that our achievements will help make a positive difference to teaching and learning with deaf learners.

During my studies with the Institute of Education I have learned so much. I have had to revisit things I thought I knew and unpack new concepts and ideas. The thing that I have learned the most is that I do not know very much and that there is so much more to learn about. I started the degree with a lot of enthusiasm but also imposter syndrome (I was informed that it is a real thing) as a result of leaving school with no qualifications. I always felt that I was not good enough or smart enough. Now though, there has been a bit of a sea change. I feel different, and while I can acknowledge it, I cannot articulate how and need more time to reflect on this. Finally, I do not believe that the act of reflecting can be contained to one area of an individual's life. Therefore, it is not just my professional life that has benefited from the past five years but my personal life also. For that I am grateful.

The D/d distinction

While this study constitutes education research, because it involves sign language users it is rooted in the overlapping fields of Deaf Studies and Sign Language Studies. Therefore, it feels important to address the writing convention that has been in use for the past four decades. As outlined in my Institution Focused Study (Aldersson, 2019), this convention is to use upper case *D* when referring to those who are linguistically and culturally deaf (have a sign language as a first or preferred language and identify as being part of a deaf community) to distinguish them from those who have a hearing loss but do not use a signed language or identify with those that do.

The use of the uppercase *D* was initially used in 1975 by Woodward (1975) at a symposium on majority and minority languages at the Society for Applied Anthropology in Amsterdam. He did so to refer to a sociocultural framework of deafness but writing forty years later (Woodward & Horejes, 2016) he explains that this distinction was in relation to his research and that he never suggested that others should adopt this usage. Padden and Humphries (1988) incorrectly stated (citing a secondary source and not the original paper) that Woodward had proposed this writing convention and subsequently used *Deaf* as a political/social/cultural/linguistic model, and *deaf* as an audiological/medical model.

This usage has created some divisions and membership and acceptance into a deaf community is sometimes bound up with the D/d distinction and has continued to create debate in academic circles in the field. Woodward himself (Woodward & Horejes 2016, p. 285) describes the “rigid taxonomy” of Deaf/deaf as being “dangerous, colonising

and ethnocentric, reinforcing tautological and spiral debates with no positive constructions to the understanding of what it means to be Deaf/deaf".

Napier and Leeson (2016) acknowledge the complexity surrounding the issue and explain that the deaf community has evolved, with increasing numbers of deaf people entering and participating in the deaf community after learning sign language later in life. They propose (p. 2) using *deaf* as a generic term in the field of Deaf Studies and referring to *signing communities* or *sign language users*. By doing so, it circumnavigates making any "judgements about individuals' linguistic and cultural identity but also to be more inclusive." This acknowledges heritage signers such as those with deaf parents, or people who are hard of hearing who also use sign language.

Deaf scholars Kusters and De Meulder (2017 p. 13) argue that the D/d distinction creates a "dichotomy" and an "oversimplification of what is an increasingly complex set of identities and language practices", and that "multiple positionalities/multimodal language use is impossible to represent with a simplified binary". This resonates when thinking about some of my learners and also for me as a sign language user with hearing loss myself (I wear hearing aids), who does not identify as deaf or Deaf but instead as hard of hearing. I support Napier and Leeson's proposal to use the generic term deaf and refer to sign language users, and I will retain the D/d convention only if quoting other authors directly.

Other writing conventions in the thesis

I will use lower case when referring to sign language in terms of a modality of language, i.e., sign language users, sign language interpreters. When referring to a named sign language I will use upper case, i.e., British Sign Language.

When referring to items from the word list used for the elicitation task I will use bold italics i.e., ***adjective.***

When writing an English gloss/translation of signs in BSL I will use uppercase i.e., DESCRIBE. Additionally, uppercase will be used to refer to the English mouthing that is incorporated as part of a sign.

When referring to a particular English word I will use lowercase and inverted commas.

Chapter 1: Introduction and rationale

1.1 Professional context

While conducting this investigation my professional context remained the same as for my Institution Focused Study (IFS) undertaken in the second and third year of the Doctorate in Education programme (Aldersson, 2019), and I continue to be affiliated to a well-established adult education provider in London. I am a teacher in a small department that is the Centre for Deaf Education and one of very few that cater specifically for deaf adults in the UK. We teach English, mathematics and computing courses to deaf adults as well as British Sign Language (BSL) to deaf individuals who have moved from overseas to the UK to help them integrate into the British signing community. We also teach BSL at all levels to hearing people who want to learn. All the teachers, deaf and hearing, are sign language users.

My relationship with the institution spans three decades. In 1989, aged nineteen, I moved to London from Yorkshire to study BSL on a one-year full-time course to qualify as a communication support worker with deaf students. Some years later I completed a degree in BSL/English interpreting and went on to become a qualified and registered sign language interpreter, working in a wide variety of settings. After gaining my teaching qualifications I took a position as a lecturer on the same degree course I had previously studied on, and a few years later transitioned to teaching deaf adults. Additionally, I have taught at the International School of Iceland (both primary and secondary year pupils) and in a deaf school in London.

Together with my teaching role I still practice as a freelance interpreter and teach a number of professional development courses. Additionally, I mentor and supervise

individual aspiring interpreters as they work towards their Registered Sign Language Interpreter status with the NRCPD (our professional awarding and regulatory body) and I am also a qualified assessor. Therefore, I have a dual professional role and my working week is split equally between the field of interpreting and teaching. As stated in my IFS (Aldersson, 2019), while the professional boundaries and the respective functions of these roles are considerably different, my underlying engagement with BSL and English and the interplay between the two is perhaps less so.

At the institution where I work, my learners are a mix of British born individuals and those that originate from overseas, although a majority are the latter. All have learned their respective native signed languages as a first language. The students learn in deaf-only groups with teachers (deaf, hearing and hard of hearing) who are sign language users. Interpreters/communication support workers are not used unless an individual learner has additional learning support needs.

The courses are labelled Functional Skills, also known as Essential Skills, but I am reluctant to attribute labels such as these or even literacy. This is because some of my learners are already quite literate in the written medium of the spoken languages of their native countries. Similarly, I am not keen on English to Speakers of Other Languages (ESOL) to describe my context because my students are sign language users. The courses comprise of elements of all of these aforementioned labels, and yet none feel suitable. I much prefer “English for Deaf Learners”, which feels more encompassing and accurate while being mindful of the diversity of learners’ backgrounds, communication preferences, levels of competency and the classes/levels that I teach.

1.2 IFS to Thesis

My IFS in years two and three of the EdD programme explored the language practices in our classroom through the lens of translanguaging and semiotic repertoires, evidencing a strong interplay between English and BSL together with instances of Signed English, Sign Supported English and what could be best described as our own classroom version of International Sign.

Canagarajah (2013, p. 6) posits that "Communication transcends individual languages" and also that "Communication transcends words and involves diverse semiotic resources." The findings of the IFS evidenced the use of multiple semiotic resources such as images, drawings, objects, gesture, enactment and role-play. These latter strategies for meaning-making were clear examples of how translanguaging is not simply a blending or meshing of languages but also constitutes a movement beyond language, the prefix *trans* referring to a change or movement not only across and between but also beyond or transcending. This notion was also explained as the way in which language boundaries (of English and BSL) were blurred and how meaning was constructed in ways that were often spontaneous, creative and transformative. Transformative, because for many of my deaf learners it was a very different experience from some of their earlier educational experiences where a signed language was not valued or used in the classroom.

My thesis explores how teachers navigate referring to metalinguistic terms (see 1.3 for a definition of metalanguage and a brief discussion of its importance) likely to crop up in an English class, and how they might be realised in BSL. However, while translanguaging was not the focus this time, as a theory of language (Li, 2017) and a description of a linguistic process, it feels relevant to this study.

Williams (2002) explains that translanguaging means receiving information in one language and using it/applying it in another while Baker (2011, p. 288) refers to it as ‘‘the planned and systematic use of two languages inside the same lesson’’. I adopt a translanguaging stance (Garcia & Li, 2014) and my classroom constitutes a translanguaging space (Aldersson, 2019; Li, 2011) where all my learners’ languages are respected and valued. Given that this study looks at the use of one language (BSL) being used to talk about another (English), I would argue that it is still anchored to translanguaging as a practical theory of language as described by Li (2017).

1.3 Metalanguage and rationale for the study

Metalanguage is the language we use to talk about language. Finch (2003) suggests that it is the most useful term to describe all the terminology around language and linguistics. He further explains that metalanguage consists of words, quite often of a technical variety, that enable us to discuss and describe our use of words. Fromkin and Rodman (2003) offer a helpful distinction between *linguistic knowledge*, the unconscious knowledge of a language and *metalinguistic awareness* which is a speaker/signer’s conscious awareness of language and its use. Examples of metalinguistic terminology are noun, verb, adverb, present perfect tense, subordinate clause and lexeme, and some of these terms are explored in this study. Crystal (2017) explains that in many English-speaking countries, the teaching of grammar and metalanguage in schools as part of mother-tongue language education diminished by the middle of the twentieth century, due to dissatisfaction with the prescriptivist approach to its teaching that had been used. I attended primary and secondary schools in the 1970s and 1980s respectively in England and it was certainly my experience that grammar and metalanguage was glossed over and not much attention was paid to linguistic terminology. It was not until I studied Portuguese and Icelandic

that I developed the metalinguistic awareness that I have today and conversations with contemporaries indicate similar experiences. Myhill and Watson (2014) give a helpful review of the literature regarding the debate about the role of grammar and metalanguage, acknowledging that the past 50 years have been ones of debate and dissent. Locke's (2010) "Beyond the grammar wars" alludes to the fact that it has indeed been an ideological battleground and it is not within the scope of this study to explore that debate in depth. I am approaching this study on the premise that metalanguage is integral and somewhat crucial in my classroom (one of my courses is titled "Word classes and their functions" - which feels as much a course in metalinguistic awareness than it is English) – and is therefore an important part of my teaching practice. My deaf learners are unable to hear what "sounds right" and so unpacking and discussing language - often referring to BSL also - and therefore using metalanguage is integral to the classes.

How do teachers navigate talking about metalanguage in the classroom when teaching English language to deaf sign language users? Do they use signs, fingerspelling, written English or a combination of strategies? If signs are used, how are these terms realised in BSL? What signs do we use for the various word classes in English? Is the sign for the term ***perfect*** (when talking about the tenses) conveyed in the same way in BSL as we might in another context to mean "excellent/flawless"? Can the established sign REGULAR in BSL, meaning frequently, also be used to talk about ***regular verbs****?*

These are the sorts of questions I have asked myself as a teacher of English language to sign language users. However, it has not only been me asking these questions. My students frequently ask what signs to use for some of these terms and sign language

interpreters/communication support workers in English language classes often contact me, as a teacher and fellow interpreter, given my dual professional role, enquiring if I have a glossary of signs. Informal conversations with other teachers, both deaf and hearing, suggest that they too have been asking the same thing.

This anecdotal evidence suggests a dearth of standard, conventionalised ways of expressing these terms in BSL that could crop up when teaching English. Quinn, Cameron and O'Neill (2021) state that there are many specialised terms for which there is no specific sign in BSL (p. 27) and that this is a consequence of enforced oralism in the education of pupils that has persisted over a long time. The authors outline the innovative work of the Scottish Sensory Centre's BSL Glossary Project which has made great strides to rectify this situation. To date, glossaries of signs for terms in the fields of chemistry, biology, astronomy, geography, mathematics and physics have been established and continue to be developed and will be discussed further in the literature review.

There has hitherto been no investigation that specifically explored how metalinguistic terms pertaining to English language teaching might be expressed in BSL. However, a small group of participants in my study who work together in the same school did explain that at the same time as their participation they were developing some agreed signs for these terms for consistency. This was somewhat validating, and indicative of the fact that it was a topic of interest to others besides myself and that collaboration with other teachers of English to sign language users might be beneficial.

The study did not explore all metalinguistic terms and instead gave focus to the smaller sub-category of terms that are far more likely to crop up in classrooms when teaching English (and that list itself was not exhaustive). This study might be perceived as a study of BSL although I would argue that it is not. Essentially, it is more a study of how practitioners navigate talking about metalanguage in the classroom when teaching English to sign language users. Additionally, it is a lexical study that explores a very specific semantic field that could be described as technical language or subject-specific language.

While the IFS looked inward exploring my language practices, and those of my students, this study looked outward and this time explored the language use of other practitioners. It was this desire to collaborate with others and to foster a sense of community among teachers working in a particular context and to overcome the feeling of working in isolation that was the driving force for the study. I did not set out to create new signs or establish a glossary, but simply to describe what is currently in use among practitioners. The goal was for the study to serve as a preliminary investigation to elicit data that could be potentially used as a springboard for future, deaf-led investigations. Having said that, I had anticipated that given the collaborative nature of the study, the findings could potentially highlight a particular way of expressing a given term in BSL that is perceived as useful and subsequently adopted by others (this was the experience of myself and many other participants). It is my hope that these initial findings will be used as a starting point for future studies and projects.

1.4 Framing the study

My investigation sits in a number of overlapping fields. It is education research given the fact that the programme is a Doctorate in Education, but more specifically the field of Deaf Education. Additionally, the topic places it in the fields of Applied Linguistics and Sign Language Studies. As this is a professional doctorate and the thesis seeks to engage with other practitioners, the study is framed as practitioner research, a systematic approach to professional development undertaken by practitioners in their respective fields. The qualifier "*practitioner"* means that those undertaking the research are both researching and practicing (Menter et al., 2011). In particular, it was approached in the style of a collaborative enquiry, a process where the participants are co-subjects in the initial phase (exploring the issue) and co-researchers in the reflection stage (Heron, 1996). I approached the study this way because if it is only myself who is aware of the outcomes of my investigation then the significance of my enquiry would be limited to that of simply personal reflection rather than research. Both practitioner research and collaborative enquiry will be explored in more detail as part of the literature review. It feels important to reiterate that I wanted the study to have an ongoing professional impact, and for my investigation to serve as a vehicle for establishing a collaborative enquiry group/community of practitioners working in contexts where English is taught to deaf sign language users.

Chapter 2: Literature Review

It is not within the scope of this chapter to explore all the features of sign languages and current debate in the various sub-disciplines within the field of sign language linguistics. Instead, for section 2.1 I have chosen to focus on specific topics, possibly seemingly unrelated, but which are relevant to the findings in this study. Section 2.2 explores one of the methodological issues pertaining to undertaking research in the field of sign language studies, that of data collection in the context of lexical studies, and looks at some investigations that have relevance to my study. Section 2.3 gives focus to practitioner research, collaborative enquiry and communities of practice respectively and concludes with my research questions.

2.1 Sign languages

The pioneering work in the United States by William Stokoe provided evidence that there is another modality of human language in addition to speech and writing. Stokoe's biographer Maher (2010), states that he is no doubt viewed as a hero in the wider deaf community of the United States and for sign language users around the world. This is because his seminal text (1960) and subsequent work with Casterline and Cronenburg (1965) proved that American Sign Language (ASL) is not a simplified version of English, but instead a language with a distinct phonology, morphology, syntax and vocabulary. Since then, research into sign languages from around the world and the position of this research in relation to the various sub-disciplines within the field of linguistics such as syntax, sociolinguistics, psycholinguistics, phonology, language acquisition and bilingualism, has expanded linguists' understanding of this modality of language. Maher (2010) states that his work encouraged linguists to re-evaluate some of the earlier assumptions and misconceptions about the nature of sign

languages such as that by the respected Bloomfield (1933) who claimed that sign languages were simply transparent and primitive gesture systems.

2.1.1 British Sign Language

A paper published by Brennan (1975) in the American Annals of the Deaf (and a year later in the British Deaf News) was pivotal in BSL first being identified as a language in the UK. Not too long after, Deuchar, influenced by the pioneering work of Stokoe and others such as Klima and Bellugi, (1979), also began her research and published her book *British Sign Language* (1984). This period was significant for BSL because Brennan and Deuchar's research gave it credibility as a legitimate language in the same way that Stokoe did for ASL. The British Deaf Association (BDA) reports (2021) that BSL was officially recognised by the UK government as a language in its own right in 2003 with a view to achieving BSL legal status. With the exception of Scotland, which gave legal recognition to BSL back in 2015, BSL has not yet been given legal status in the other regions and the BDA is actively campaigning for this.

BSL is a language in its own right and is the natural language of deaf people with a rich history that goes back centuries (BDA, 2021; Kyle & Woll, 1985; Sutton-Spence & Woll, 1999). Used in the visual-spatial language modality, users communicate in BSL by use of the hands and fingers, arms, eyes, face, mouth, head and body (Brennan et al., 1984). Language produced in this way is then decoded by other interlocutors in the interaction who are also users of BSL. The BDA reports (2021) that there are 151,000 users of BSL in the United Kingdom and that it is Britain's fourth indigenous language.

Johnston (2003) proposes that BSL, Australian Sign Language (Auslan) and New Zealand Sign Language (NZSL) constitute dialects of a single sign language and introduced the term BANSZL (British, Australian and New Zealand Sign Language). This is due to the historical connections between the sign languages resulting in a high degree of mutual intelligibility and lexical similarity. McWhorter (2016) states that intelligibility is one way to distinguish between language and dialect and suggests that if it is possible to understand a variety without training then it perhaps it is a dialect of one's own language, and if not, it is a different language. Anecdotal evidence of deaf people and sign language interpreters being able to communicate easily with other users of these three varieties, despite some lexical differences, might support this notion that BSL is a dialect of BANZSL. Yet, for sign languages, using mutual intelligibility to determine language or dialect status might be problematic given the ease with which sign language users can communicate across different sign languages.

Palfreyman and Schembri (2021) explain that Johnston (2003) introduced BANSZL as an additional term, rather than one to replace BSL, Auslan and NZSL, to discuss the shared features of these three related varieties. Some academics are now distancing themselves from the idea of BANSZL however, and as Palfreyman and Schembri (2021) explain, it is felt that the term emphasises similarities and plays down some important differences which in turn diminishes the "unique history and complexity of each variety (p. 4)".

What we can take from this is that the notion of whether or not a variety constitutes a dialect or a language is complex and sensitive and inextricably entwined with issues

of identity and affiliation to a certain community or nation. Palfreyman and Schembri (2021) explain that “the discourse on delineating and naming sign languages is favoured by a fundamental quandary: multiple types of linguistic evidence provide few definitive or ‘objective’ answers to thorny questions about where one language finishes and another one starts, which are often informed by language ideologies and settled in socio-political contexts” (p. 1). Palfreyman and Schembri (2021) add that definitions as fundamental as what constitutes “language” add to the complexity of this issue.

Contrary to the popular misconception that sign language is one universal language of deaf communities around the world, there are many sign languages in operation Some different countries might share a sign language, or their respective varieties might be considered by some to be dialects of a single sign language as explained above with BSL, Auslan and NZSL and also with Icelandic Sign Language and Danish Sign Language (Aldersson & McEntee-Atalianis, 2008). Meanwhile, some countries may have more than one sign language in use as reported by Aaron and Akach (1998) in their study of varieties in South Africa and Brito (1984) for Brazil, and Johnson and Johnson (2016) for India.

International Sign (IS) is a pidgin sign language (also known as International Sign Pidgin) which is used when deaf people who have different native sign languages are in contact. This contact is often at large international gatherings of deaf people such as the World Federation of the Deaf Congress, the International Deaf Games or international conferences pertaining to research into deaf education, sign languages or sign language interpreting. The European Union of the Deaf offer a helpful introduction to IS (2012) explaining that it is an “auxiliary language” where users use

signs from their own native sign languages in conjunction with highly iconic signs that can be easily understood by large audiences. It states that grammatical features common to many sign languages are drawn upon for meaning-making.

2.1.2 Duality of patterning and sub-lexical units of signs

Duality of patterning (Hocket, 1960), also referred to as double articulation, is a design feature of human language. It is the idea that discrete and meaningless units at one level can be organised at a different level to create meaningful ones. Ludden (2016) explains that spoken[1] languages have a limited set of meaningless speech sounds that are organised by the rules of that language to form meaningful words. Meanwhile, Nordquist (2020) adds that that these limited meaningless elements can make up a virtually limitless inventory or words or morphemes. Stokoe's ground-breaking discovery (1960) that sign languages worked in the same way as spoken languages, in that signs too were comprised of discrete meaningless elements that can be organised and combined to create something meaningful, changed everything. The acknowledgement of duality of patterning (meaningful and meaningless components) was a pivotal moment in sign languages being recognised as languages.

To describe these smaller sub-lexical units of signs and the study of how these were organised, Stokoe (1960) coined the new terms (derived from the Greek word *cheir* meaning *hand*) *cheremes, allochers* and *cherology* and were analogous to phonemes, allophones and phonology respectively. The motivation to do this was that in the context of sign languages it was felt that the root *phon* (sound) was not suitable. Since

[1] I use the word "spoken" as a qualifier to contrast with "sign" language.

that time however, linguists investigating and researching sign languages refer to *phonology* and as Brentari (1998 p. 2) states, “Phonology is the level of grammar where primitive structural units without meaning are recursively combined to create an infinite number of meaningful utterances.” Sub-lexical units of signs are now referred to as *phonemes* and *allophones* to acknowledge that while the modalities of sign and spoken languages are different, the same level of structure exists (Brennan et al., 1984, Kyle & Woll, 1985; Sutton Spence & Woll, 1999). The advantage of this is that if there is a similar framework for analysis then it makes linguistic comparisons across the two modalities of language much easier.

To begin with, the building blocks of signs (also referred to as *parameters*) were originally identified (Stokoe, 1960) as *hand-shape*, *location* and *movement*. Later, several researchers (Battison, 1974; Friedmanm, 1975; Frishberg 1975) suggested that a further parameter, orientation (the direction that the hands are facing), is required to provide an accurate description of how signs are formed. This is because a contrast in orientation can also cause a phonemic change. For example, the signs for BRITAIN and NOW share the same handshape (palms open and fingers splayed) and location (in neutral space in front of the body). However, palms facing down means the former and if they are facing up it means the latter.

Crasborn (2006) explains that it is now recognised that besides the hands, non-manual articulations are now considered by sign language linguists to be a fifth parameter. This fifth parameter can be broken down into a number of features which include facial expression and the movement and positions of the head, shoulders and upper body. The use of the face can be further broken down to include eyebrows, eye gaze,

cheeks, nose, lips and jaw. Crasobrn (2006) proposes that this list comprises of a number of potentially independent articulators used in conjunction with each other and the manual components. While people who do not use a sign language might know that the hands and arms are used to create signs, they might be less familiar with the fact that facial expression, mouthing, head nods/tilts and shifts of the body and shoulders all have grammatical functions when communicating in a sign language. Pfau and Quer (2010) explain that this is one of the most common misconceptions about sign languages.

As per BRITAIN/NOW, different signs can share parameters. If two signs contrast in only one parameter, this constitutes a minimal pair in the same way that the spoken words “pat” and “bat” contrast only in the unvoiced /p/ sound and the voiced /b/ sound. In BSL the signs for NAME and AFTERNOON share the same handshape, movement and orientation but differ in location with the movement of the hand coming away from the forehead and from the chin respectively as illustrated in figures 2.1 and 2.2

Figure 2.1 NAME

Figure 2.2 AFTERNOON

(https://www.british-sign.co.uk)

Sometimes, signs might have identical manual components as can be observed in the signs for METAL and FINLAND as shown in figures 2.3 and 2.4 and also for UNCLE and BATTERY as shown in figures 2.5 and 2.6 These two pairs of homonyms would

be distinguished by mouthing[2] and context (we would not talk about visiting one's battery and neither would we say that our uncle has gone flat and needs replacing).

Figure 2.3 METAL

Figure 2.4 FINLAND

Figure 2.5 UNCLE

Figure 2.6 BATTERY

BSL SignBank[3]

Sutton-Spence and Woll (1999) explain that phonology is about contrasts in meaning and not necessarily in appearance. What they are saying here is that there can be differences in any of these parameters that are *not* phonemic (do not change the meaning) and instead are allophonic (Brennan et al., 1984). In spoken English there is no change in meaning between the way someone from Yorkshire says "bath" and how a speaker from London says it, but there is a distinct contrast in the vowel sounds. A vowel contrast such as that with "cat" and "caught" *is* phonemic however and

[2] The designers of the BSL SignBank made a deliberate decision not to incorporate mouthing. The rationale for this was because they wanted to enter the signs with all of their different meanings without the mouthing reflecting any specific meaning (Fenlon et al., 2015; Schembri, 2021).

[3] The BSL SignBank is a lexical database designed by UCL for research purposes and also serves as an online dictionary. https://bslsignbank.ucl.ac.uk

changes the meaning. The same can happen in sign languages. In BSL the sign KNOW involves the thumb of the dominant hand contacting with the temple as shown in figure 2.7.

Figure 2.7 Know (BSL SignBank)

In rapid or informal signing there is an undershoot where the thumb might only reach the cheek or the chin. The contrast in location is probably not too dissimilar to the aforementioned example in figures 2.1 and 2.2 (NAME and AFTERNOON) but while that contrast results in a change of meaning, the contrast in location with KNOW does not. This is one example of how even though sign languages and spoken languages are in different modalities, and there are some differences in terms of linguistic features, there are some aspects that are the same making them equally rich.

2.1.3 Morphology and morphemes in BSL

Morphemes are the smallest units of meaning in a word or sign and can be broken into smaller units that do not have meaning. There are two types of morphemes: bound and free (Nordquist, 2020). Free morphemes can stand alone and have meaning such as the English words “car” or “man”. Bound morphemes such as *ish, s, un, ly, dis*, carry meaning but are parts of words but never words in their own right. As Sutton-

Spence and Woll (1999) state, morphemes can be combined to make a single sign. They expound that sometimes one morpheme constitutes one sign and one sign is one morpheme, and that this happens when the sign only has one unit of meaning. They offer a good example of a sign that is polymorphemic (more than one morpheme) which is the sign for CHECK[4] and comprised of the signs SEE and MAYBE It is a single sign but made of up of two meaningful elements. Another example might be TALK FAST where the sign for TALK is inflected by the movement parameter speeding up to express the adverb FAST. BSL morphology (adapted from Sutton-Spence & Woll, 1999) can be schematised like this as illustrated in figure 2.8

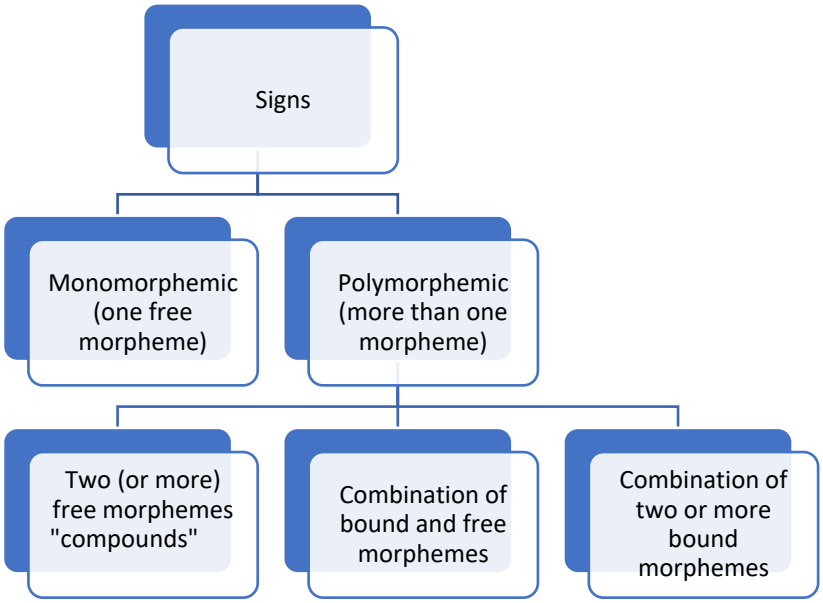

Figure 2.8 Monomorphemic and polymorphemic signs

Two free morphemes can combine to make a compound and form a new sign/word with a different (but related) meaning. It is very common for languages to do this (Nordquist, 2020) and there are numerous kinds of combinations in English such as

[4] Many of the signs referred in this section can be seen by accessing BSL SignBank (https://bslsignbank.ucl.ac.uk) and using the search function.

“greenhouse”, “breadboard” or “homework”. BSL also uses compounding, for example, THINK and TRUE to create the sign BELIEVE or MAN and WOMAN to create the sign PEOPLE. Initially, it was thought that compounding was simply a case of putting two signs together but linguists studying sign languages subsequently noted that there are certain phonological changes that occur when two signs are combined, as did Kilma and Bellugi (1979) in their study of ASL and Wallin (1983) in his study of Swedish Sign Language.

Sutton-Spence and Woll (1999) clarify that compounds take less time to articulate that two separate signs (p. 102). They state that the length of the compound is similar to a sign that is not a compound and this is due to a “blending, smoothing, elimination of transition, loss of repetition, and compression of the first sign in the compound”. They elaborate that the rhythm of the sign changes when a compound is produced resulting in the following:

- the initial hold of the first sign is lost;
- any repeated movement in the second sign is lost;
- the base hand of the second sign is established at the point in time where the first sign starts;
- there is rapid transition between the first and second sign;
- the first sign is noticeably shorter than the second.

2.1.4 Borrowing

Nordquist (2020) explains that languages are avid borrowers and that their lexicons can be divided into those words which are native and those which are non-native. English has borrowed extensively from other languages over the centuries (Crystal, 1995), sometimes directly and sometimes indirectly. Nordquist (2020) adds that English is additionally a donor language and has been the main source of borrowing for many other languages.

Ebling et al. (2015) explain that sign languages borrow from other sign languages where there is no historical relationship. BSL is no exception in terms of borrowing from other languages although the number of loans from other sign languages is relatively small (Kyle & Woll, 1985, Sutton-Spence & Woll, 1999;). A couple of examples are the established sign in BSL for RESEARCH borrowed from American Sign Language and ATTITUDE from Danish Sign Language (Sutton-Spence & Woll, 1999). Interestingly, there is one semantic category, signs for places (countries and cities), where borrowing is strongly evident not just with BSL but observed in many sign languages around the world. This is because sign language users tend to adopt the sign for a country or city used by the deaf communities in those places and this has resulted in levelling (the process of a reduction in variation) for this semantic category. Ebling et al. (2015) give an example of the loan sign EUROPE which was taken from one sign language (they do not specify which one) and subsequently adopted by others. The sign in BSL for ALBANIA is the sign that deaf Albanians use and the sign for SYDNEY is the sign that deaf Australians use. Meanwhile the sign in Íslensk Taknmál (Icelandic Sign Language) and Dansk Tegnsprog (Danish Sign Language) for SPAIN is the same sign that users of Lengua de Signos Española (Spanish Sign Language) use (Aldersson & McEntee-Atalianis, 2008). There might be some differences but this is the general way it works.

When BSL borrows, it borrows mostly from English and this is no surprise because languages tend borrow from the language they have most contact with. Sutton-Spence and Woll (1999) explain that there are two ways that BSL can borrow from English: sign for sign (or morpheme for morpheme) from English in a process called “loan translation” or through the use of letters from an English word using the manual

alphabet. English mouthing/spoken components is another. Loan translations, also referred to as a calque, are compound words or expressions and the individual parts are translated literally into the borrowing language (Bolton, 1982; Crystal, 1995; Edwards, 2003; Fromkin et al., 2003, Nordquist, 2020). Examples in English are “Adam’s apple” (from the French “pomme d’ Adam”), or “watershed” (from the German “wassersheide”).

Loan translations in BSL are frequent when using English idioms when the signer wants to refer to a fixed phrase in English or with referents predominantly known by the English name such as certain television programmes or names of well-known organisations (Sutton-Spence & Woll, 1999). At the time of writing I am teaching a 10-week vocabulary course to adult sign language users and some of our lessons give focus to phrasal verbs and idioms. We are in the process of creating some information videos as part of a course project for an online space ESLU (English for Sign Language Users) where we fingerspell the phrasal verb (borrowing from English), and give a literal word-for-sign loan translation (again borrowing from English) followed by a BSL interpretation using established signs that convey the true meaning but move away from the English words. For example, we will spell the term “iron out” and then use two signs IRON and OUT, which makes no sense in BSL, the particle “out” is difficult to convey because it has no meaning in BSL in isolation and can mean a number of different things as it does in English. “Iron out” is then translated in BSL as a semantic whole with the true meaning and the signs themselves will have nothing to do with “iron” or “out”. When teaching this term however, I do try to create the connection by asking my learners why we might iron something. The response is that we iron to “get rid of the wrinkles” and “to make it smooth” and then I build on that

explaining that when we iron we make the shirt look good. I offer the example to learners that a new website due to go live might need a few things 'ironing out" before it is launched so the developers will be working on that. The process can be schematised like this as seen in figure 2.9.

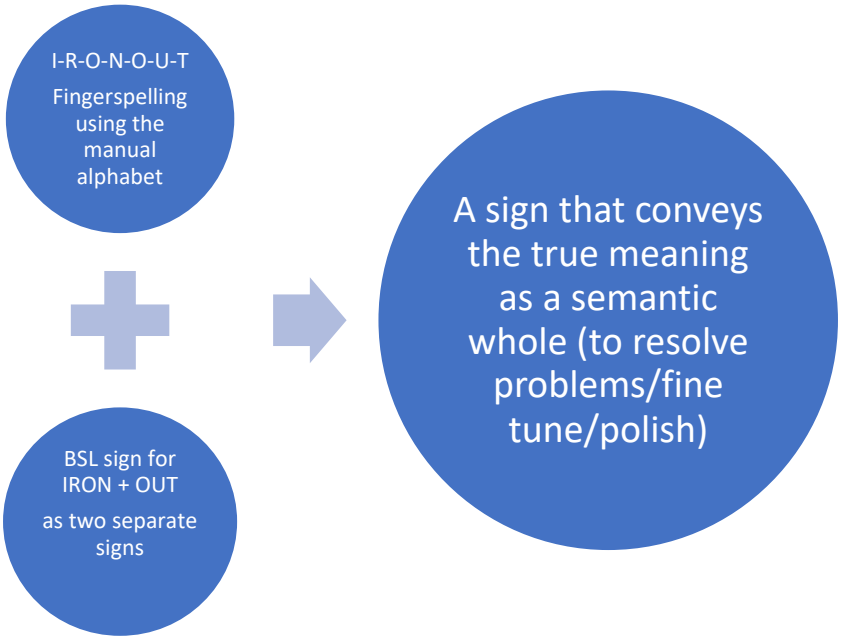

Figure 2.9 Unpacking phrasal verbs

Unlike many other manual alphabets which are one-handed, BSL uses a two-handed alphabet and its origins go back to the 17th Century (Kyle & Woll, 1985). A number of finger positions each correspond to the letters in the English alphabet enabling representation of English words by spelling them out on the hands. A minority of these positions suggest the form of the letters but for the most part there is no connection between the manual letter and the referent except for convention. BSL is identical to the manual alphabets used for Auslan and NZSL.

Sutton-Spence and Woll (1998 p. 17) state that fingerspelling is not BSL because it does not have BSL vocabulary although they do acknowledge that BSL incorporates

fingerspelling quite a lot. However, some established signs in BSL are letters using the manual alphabet (sometimes abbreviated) that have become lexicalised and assimilated into the lexicon of BSL. Therefore, some might argue that because of this perhaps fingerspelling should be considered part of the language, albeit a borrowed part, particularly if fingerspelling is being used by sign language users as an integral feature of their overall daily communication in BSL.

Sutton-Spence and Woll (1999 p. 225) give a detailed overview of borrowing from English through fingerspelling in their study of the linguistics of BSL. They explain that the form of the English word will impact on fingerspelling. Short words are more likely to be fingerspelled than long ones and this is perhaps why some words from English have been absorbed into BSL such as IF, BUT, OR and FOR. If the word in English is short it is usually fully fingerspelled although with possible vowel reduction. They further construe (1999 p. 225) that usually words that are more than four letters tend to be abbreviated but that there is a pattern to this rather than it simply being random.

- The first syllable is often retained (observed with months of the year -j-a-n-, -f-e-b-.
- When the second letter of a word is an -h and it creates (along with the first letter) speech sounds such as ch, th, ph, sh then these are used (-t-h for Thursday).
- When the word is short and has a central vowel, the first and last letter are kept.
- If a three-letter word starts with a vowel all three letters are spelled.
- Vowels are dropped more than consonants but the first letter is always retained.

2.1.5 Mouthing and other non-manual elements

Ebbinghaus and Hessman (1996 p. 27) propose a language such as German Sign Language (DGS) is a “system that organises the dynamic interplay of independently meaningful manual, non-manual and spoken units – an interplay made possible by the

multi-dimensional nature of visual-gestural communication". They acknowledge that articulators other than the hands and arms (face, head and torso) are also involved in sign communication but state that while these non-manual signals have received widespread attention "spoken" (mouthed) units have not always been seriously considered as a proper part of a sign language.

Ebbinghaus and Hessman (2001) make a helpful distinction between *mouthing* which is the realisation of spoken words (usually without voice but depending on the signer, sometimes they can be voiced) and *mouth gestures* which are part of the overall sign and do not correspond to the spoken word. Indeed, there are certain signs in BSL that are accompanied by certain mouth gestures and are considered integral to the sign.

An example of this in BSL is an articulation where the tongue sticks out in the same way as it does for the "th" sound in English and quickly retreats inside the mouth when used with a particular sign that conveys the idea of something that was once there but has now gone/vanished. Another is the articulation that begins with the mouth shape for the English sound "sh" and is used with the sign NOT YET. These signs are almost always used with these particular mouth gestures but the gestures themselves do not correspond to a spoken word. Schermer (1990), contrasts "spoken" (but usually unvoiced) components with "oral" components and this distinction is essentially congruent with Ebbinghaus and Hessman's (2001) terms "mouthing" (spoken components) and "mouth gestures" (oral components). Sutton-Spence and Woll (1999) propose that mouthing is used:

- to represent spoken language mouth patterns in combination with signs
- to represent spoken language mouth patterns in first-letter signs
- to distinguish other manual homonyms

There are a number of single manual letter signs in BSL, relatively few, that are derived from the first letter of fingerspelled words and these frequently have an accompanying mouthing for clarity. Mouthing also applies to semantically related pairs such as HUSBAND/WIFE and for one particular numbering system in BSL for the numbers FOUR and NINE (these two pairs are manually identical and are always contrasted by the mouthing).

As with spoken languages, negation is also a grammatical feature of sign languages. Sutton-Spence and Woll (1999) state there are three main elements of negation in BSL: facial expression, head movement and negation signs (or signs with negation incorporated in them). They state that for something to have grammatical negation there needs to be a shaking of the head. Facial expression also conveys negation, in conjunction with head-shaking and exists on a continuum from mild to extreme.

2.1.6 Iconicity, transparency and arbitrariness

To be able to discuss iconicity and transparency it is important to consider definitions and to set out how I am using these terms. Sehyr and Emmorey (2019) refer to iconicity in sign languages as the resemblance between the form of a sign and its meaning. They propose that a sign is generally considered to be iconic when it is possible to identify the motivation for the sign's form when the meaning is known. Meanwhile, they define signs as being transparent when the meaning can be successfully identified by those who are not sign language users or who might not be native users of the sign language being used. I shall frame my discussion of these phenomena and align my own definitions to those of Sehyr and Emmory (2019). The motivation that they refer to is visually motivated and so a sign is *arbitrary* when there is no discernible visually

motivated form-meaning mapping and instead, that mapping is a result of convention only.

Perniss et al. (2010) explain that views about relationships between form and meaning in language have tended to be dominated by the idea of arbitrary connections. They propose that instead, motivated iconic mapping between form and meaning is widespread in language. Meanwhile Thompson (2011 p. 603) states it has been generally accepted as a fundamental feature of language that there is only a conventionalised arbitrary connection between a word and its referent and that the linguistic form should be arbitrarily linked to meaning when in fact both iconicity and arbitrariness have a role to play in language. Meanwhile, Perniss et al. (2010, p. 1), state that our "pre-occupation with arbitrariness has eclipsed a proper acknowledgement of non-arbitrary (iconic and motivated) form-meaning mappings in language".

Perniss et al. (2010) and Thompson (2011) suggest that if we broaden the scope to look beyond Indo-European languages and therefore more diverse linguistic structures, and indeed modalities (so, to include sign languages) then it is possible to see that many languages make use of iconic form-meaning mapping. Meanwhile Thompson (2011 p. 603) suggests that sign languages can "address questions unanswerable with spoken languages alone". This is because although it has been determined (Emmorey, 2002; Sandler & Lilo-Martin, 2006) that while sign languages adhere to the same linguistic principles (and also grammatical constraints) that can be found in spoken languages, the visual-spatial nature of sign languages means we can explore language from the vantage point of another modality of language, "crucially

independent of oral-aural modality considerations that have previously influenced our understanding of languages" (Thompson, 2011 p. 603).

In the early days of investigations into sign languages, researchers tended to avoid too much discussion around iconicity and gesture. Frishberg (1975) for example, with reference to ASL, suggested that iconicity was diminishing over time and that "signs change and move away from their imitative origins" to more arbitrary shapes (p. 700). Meanwhile Battison (1978) argued that phonological processes eradicate iconic motivation. However, other sign linguists such as Klima and Bellugi (1979) acknowledged that different sign languages might not have the same iconic motivation meaning that referents can be equally iconic but realised differently.

Comparing these earlier researchers' ideas about iconicity with more recent research, (Taub, 2001, Thompson 2011, Occhino et al., 2017; Sehyr & Emmory, 2019) I would suggest that one reason for this shift is that in the early days of exploring sign languages, researchers probably felt a need to move away from the notion that sign languages were simply gestures to assert them as bona-fide languages. If the general thinking has been that form-meaning mapping is purely arbitrary and conventionalised then this motivation to downplay iconicity and gesture is understandable. Fortunately, researchers now acknowledge that iconicity, and gesture, are integral features of sign languages and that this does not diminish their standing as human languages. As Occhino et al. (2017) helpfully point out, acknowledging iconicity does not restrict languages from exhibiting arbitrariness. In other words, it does not have to be one thing or another. Perniss and Vigliocco (2014, p. 10) argue that iconicity is a core feature of human language and "provides a key to how humans share sensory, motor

and affective experiences with each other via communication". This change in perspective about iconicity and the interesting role that it has to play in understanding sign languages means that whereas at one time sign language linguists were disinclined to explore iconicity, this is no longer the case.

Taub (2001) suggests that because we live in visual world sign languages offer many more dimensions of meaning from a sign's form compared to the spoken word. Meanwhile, Thompson (2011) argues that the ability to create visually iconic depictions of the world around us means that many signs have a propensity to represent meaning in some way. Ebling et al. (2015) argue that it is generally agreed that iconicity is more prevalent in sign languages than spoken languages. Importantly, and certainly pertinent to this particular investigation, iconicity is not solely about concrete objects and actions but also things that are abstract such as metalinguistic terms.

Taub (2001) proposes that iconicity is not simply an objective relationship between image and referent but more a relationship between our *mental conceptualisation* and the referent. One such study set out to explore this (Pizutto et al.,1996) by testing the ability of participants to guess the meanings of some signs in Italian Sign Language where none of the participants knew Italian Sign Language. Participants were divided into three groups: non-signers who were not Italian, non-signers who were Italian, and signers who were not Italian. Some signs were easily guessed by participants who were non-Italian non-signers, some were more easily guessed by non-signers who were Italian and some were more easily guessed by the signers who were not Italian. The findings showed that some transparency (where the meaning might be guessed

by those who do not use a sign language) is due to being a sign language user - even if that is a different sign language, some was universal irrespective of signing ability and nationality and some seemed connected to understanding Italian culture. The point here is, as Taub (2001) suggests, we need a definition of iconicity that incorporates culture and conceptualisation. She says that iconicity is partially motivated by our own experiences common to all humans but also to our experiences in certain societies and cultures.

To give an example, the sign EAT can be quite iconic and possibly transparent and yet realised in different ways depending on how users of a sign language collectively conceptualise the act of eating in their culture (chopsticks, fingers, knife and fork). Of course, there can be different conceptualisations within a culture depending on what is being eaten and how (banana, spaghetti or hotdog). The sign for UNIVERSITY in BSL suggests the shape of the mortarboard/academic cap and yet in other sign languages it could be books being carried under the arm or a sign that expresses the idea of learning in some way.

Iconicity can be evidenced in ways that seem rooted not just in our cultural schemas but our individual ones. When undertaking a lexical comparison of signs from Danish Sign Language and Icelandic Sign Language, Aldersson and McEntee-Atalianis (2008) had to discard the lexical items “dust”, “cook” and “dance” from the word list because there was too much variation within the groups to be able to determine definitive signs. Participants’ individual motivations based on their mental representations for representing these items were varied. For example, signers within the Icelandic group realised COOK in ways that stirred, whisked, fried and one that

showed flames from the oven. Participants from both the Icelandic group and the Danish group also danced in many interesting ways - how they danced or cooked was personal to them. Another factor is context and how much information the perceiver has about the context being discussed will no doubt impact on meaning-making.

Taub (2001) defines iconicity in a clear and helpful way. She explains that it is not just a matter of resemblance in terms of form-meaning but a sophisticated process where "allowable phonetic resources are built up into an analogue of an image associated with the referent" (p. 20). She argues that a considerable degree of conceptual work is involved and that this includes "image selection, conceptual mapping and schematisation". It exists, she says, "only through the mental efforts of human beings, dependent on our natural and cultural conceptual associations". Taub subdivides iconicity into two categories. The first is signs that are "purely" iconic with some aspect of the referent's physical form resembling a concrete image. It is not clear if she means handshape only here but I am assuming we need to include movement also as we are not just talking about handshape, but also signs that mimic a real-world action. So not just SCISSORS but CUT and not just CUP but DRINK.

The second category are types of realisations in a sign language that are iconic in a metaphorical way. Taub uses an example of THINK and PENETRATE from ASL which can be translated as "they got the point/they finally understood". The forms of these signs resemble an object penetrating a barrier and evoke the idea of "effortful but successful communication". The example Taub gives makes me think of a sign in BSL for ACCESS where the fingers of a closed palm open to allow the other hand through. Her distinction between the purely iconic in terms mimicking the shape of the

object/action and the metaphorical type of iconicity is a helpful one because it helps to avoid conflating iconicity with transparency.

Occhino et al. (2017, p. 105) suggest that this propensity to conflate the two has often been the case and propose that there are three overlapping assumptions that contribute to that. One is that iconicity equals transparency (the more iconic it is the more it is transparent), another is that iconicity is present or absent in any given sign and the other is that we can look at the same sign and objectively agree whether the sign is or is not iconic. They argue that if we think of iconicity as simply a transparent relationship between form and meaning then this discounts the *perception* of iconicity. They propose (p. 118) that iconicity "is in the eye of the beholder, and cannot be evaluated independently of an individual's language experience".

To summarise, how iconic or transparent a referent is can depend partly on the nature of the visually motivated form-meaning mapping (or in the case of arbitrariness, the lack or perceived lack of this) but also the perspective of the perceiver. There is certainly a degree of subjectivity and could be influenced by the following factors (all of which are possibly mutually overlapping).

- The referent's form-meaning mapping itself
- Whether the perceiver is a competent user of that sign language
- Whether the perceiver is a user of any sign language
- If the perceiver is part of the same culture as that of the producer
- The perceiver's own individual conceptualisation/schema.
- The context - any information that they perceiver is told about the sign.

2.1.7 Semantic change, homonymy and polysemy.

"But 'glory' doesn't mean 'a nice knock-down argument'," Alice objected.

"When I use a word," Humpty Dumpty said in rather a scornful tone, "it means just what I choose it to mean — neither more nor less."

"The question is," said Alice, "whether you can make words mean so many different things."

Lewis Carroll, (1872) Through The Looking-Glass

It is worth spending some time addressing the issue of semantic change (broadening and narrowing), polysemy and homonymy because these phenomena manifest in the lexicons of sign languages. Words and signs can change their meaning. The term "gay" is a good example of what has happened to the meaning of this word since the 1960s. Two kinds of semantic change are broadening and narrowing. Broadening, also referred to as "extension", "expansion" or "generalisation", is the process whereby the meaning of a lexeme expands (broadens). Narrowing, also referred to as "specialisation" or "restriction", is where the meaning becomes more specific (specialised) in meaning (Nordquist, 2020). Radford et al. (2009) give "thing" as an example of broadening. In Old English it used to mean "public assembly" (it still does in Modern Icelandic – the Alþingi is the name for the Icelandic parliament) but now it means "an entity of any kind". Meanwhile examples of narrowing are "hound" which originally meant any kind of dog (originally "hund") but now means a very specific kind of dog that one uses for hunting. Another is accident which used to mean any kind of unforeseen event but now has a usually more negative connotation (Katamba, 2004). However, as Yule (2010) explains, these broadenings and narrowings did not happen quickly but over a long period of time.

Polysemy is when a word has multiple meanings that are related conceptually or historically (Nordquist, 2020). It is distinguished between homonymy where a single word form has two, or more, unrelated meanings. Homonymy is often a mere coincidence (as observed in the aforementioned signs in BSL for METAL and FINLAND and again with UNCLE and BATTERY) while polysemy is not. Falkum and Vicente (2015) argue that polysemy has been largely ignored in the mainstream linguistics literature and yet it has relevance to linguistic debates surrounding lexical meaning representation.

In their study of polysemy in Polish Sign Language, Wojciech et al. (2020) posit that the phenomenon of polysemy occurs in sign languages to a comparable, and possibly greater, extent to spoken languages and suggest that it is a consequence of the fact that the lexicons of sign languages are often smaller. Sutton-Spence and Woll (1999), also state that the lexicon of BSL is not as big as English (although English has a very large lexicon to begin with) resulting in its semantic poly-functionality. Hohenberger and Happ (2001), referencing German Sign Language (DGS), state that polysemy is evident with a small DGS lexicon whereby signs are differentiated by mouthing.

There are signs in BSL that could be considered polysemous. Fenlon et al. (2015 p. 26) give an example from BSL of polysemy with the sign EXCITED which conveys multiple meanings such as “eager”, “interested”, or “motivated”. They state that the meanings are all related and all share the same sign form. I cautiously suggest that the movement parameter might be quicker for EXCITED and more measured for INTERESTED and there might be differences in the non-manual parameter with signs that share the same manual form. They explain that the BSL SignBank has cases where there are several associated key words that demonstrate “a broad range of

meaning" (p. 27) such as TAKE which includes the keywords (for the signs) 'adopt', 'adoption', 'burglary', 'burglar', 'get', 'grab', 'nick', 'obtain', 'pinch', 'rob', 'robber', 'robbery', 'seize', 'shoplift', 'snatch', 'steal', 'stealing', 'take', 'theft', 'thieve'. Another example they give is BALL which is also used for 'ball', 'football', 'globe', global', 'round', 'sphere', 'spherical', and 'world'. They state that there are no differences between form for the sign used for each meaning and that there is a shared meaning between these key words.

Fenlon et al. (2015 p. 27) continue by explaining that the range of a polysemous sign can be extended to include both concrete and abstract senses. They give the example of the signs DESIRE and THIRSTY (or to thirst) which are identical in form and that DESIRE is not just applied to being thirsty for a liquid but also for other things such as knowledge or a person. They represent this extension in meaning to include WISH, DRY and FANCY. They state that 'desire" is a metaphorical extension of the meaning "to be thirsty". It makes sense however that there is a continuum of relatedness.

Sandra's (1998), discussion together with Croft's response (1998) and Tuggy's response to them both (2001) explore the "polysemy fallacy". In essence, the fallacy is the idea that a word with many meanings has one basic meaning. Sandra puts forward that there is a propensity to make connections between what are seemingly distinct usages. This is in contrast with the tendency to conversely discriminate between similar usages. He posits that both trends reflect a preference for a polysemy model which brings together the ideas of relatedness and distinctness. I would argue that in some lesser clear-cut circumstances determining whether or not two words are polysemous might be once again, to borrow Occhino's phrasing (2017) "in the eye of the beholder".

Perhaps there are some connections between the aforementioned topics of mouthing, iconicity and polysemy. Hohenberger and Happ (2001) referencing German Sign Language (DGS) state that a lexicon is dynamic and develops over time and they anticipate new lexical innovation of signs in DGS where they are needed (in the media for example). They address the concern though, that if mouthing is always used for disambiguation (with homonymous and polysemous signs) there is no pressure for the lexicon to develop new specific signs which in turn perpetuate the mouthing. This does perhaps raise an interesting question about how deaf people from different countries manage to successfully communicate with each other. Mouthing (the spoken components) is not useful for a group engaging in sign discourse comprised of sign language users from Denmark, Slovakia, Greece and Australia (such as at the gatherings of the World Federation of the Deaf (WFD) and the Deaf Games (Deaflympics) so there must be other factors in play such as exploiting visually motivated form-meaning mapping.

2.1.8 Lexical variation in sign languages

Schembri and Johnston (2010) state that it is recognised that there is considerable variation in most sign languages and that factors influencing sociolinguistic variation and change are similar to those found in spoken languages. They offer that linguistic factors include phonological processes such as grammaticalisation, assimilation and reduction. Meanwhile Lucas (2003) refers to social factors such as socio-economic status, geography, age, ethnicity and gender. Older people may use a certain variant more than younger people and women might use a variant of a sign less than men. One interesting example was a study by Leeson and Grehan (2004) that found that gender was a reason for variation in Irish Sign Language due to the strict segregation

of boys and girls in schools for deaf children. Meanwhile another study that explored variation gave focus to African-American and white signing (Lucas et al., 2001) and found that that for some of the items sampled, African Americans used variants that the white participants did not (p. 347).

Variation in BSL has been linked to schools. The first schools for deaf children were established in 1760. Deaf children communicated using sign language and signs were adopted by younger children from their older peers (Jackson, 1990). This transmission was the way that deaf children acquired sign language because the majority of deaf children are born to hearing parents. This is the case today and in most deaf communities around the world. Due to very little interaction between schools coupled with the fact that there is no written form of BSL, varieties developed separately in different communities (Stamp et al., 2014; Schembri & Cormier, 2019), something which Quinn (2010) calls “schoolisation”. It is believed that deaf school leavers continued with their use of these variants and subsequently this created the foundation for the variants we have in BSL today (Quinn, 2010; Sutton-Spence & Woll, 1999). Schembri and Cormier explain that despite the variation there is mutual intelligibility among the different regions and variants (2019). Stamp et al. (2014) state that there have been social and educational changes in the British deaf community and that there is anecdotal evidence that variation is in decline. They attribute this to a number of factors, one of which is the closure of many residential schools. As a consequence, the majority of deaf children attend mainstream schools and so this peer-to-peer transmission has been lost and instead, deaf children are supported by hearing communication support workers who may serve as linguistic role models (despite the fact that they might have limited sign language skills).

2:2 Research in sign language/deaf studies

This section focuses on one of the methodological issues pertaining to undertaking research in the field of sign language studies. Given that my investigation is a lexical study, exploring a single semantic field, discussion around data collection and analysis will focus primarily on these kinds of investigations. The important issue of ethics, deaf-friendly research and what might constitute good practice when undertaking research with sign language users is not neglected however, and will be discussed in chapter three which outlines my research design and methodology.

2.2.1 Collecting data

Some studies (Johnston, 2003; McKee and Kennedy, 2000) had used established sign language dictionaries as a resource for obtaining signs in order to undertake lexical comparisons. Perhaps the biggest caveat in terms of this method however, is that it did not elicit signs from real-life sign language users in order to compare the languages under investigation. While to do so would at the time might have presented challenges given that the four languages they investigated are used in three different continents, the use of dictionaries as the sole method of comparing lexical items is problematic. This is mainly due to the fact that to do so is to take the description and definition of signs as fixed. In his study of variation in Mexican Sign Language, Bickford (1991 p. 5) describes difficulties such as inadequacies of transcriptions or difficulties in interpreting images and lists the following details as frequently being unclear:

- Number of repetitions of a movement
- Exact path of a movement
- Direction of rotation for circular movements
- Force, speed and length of movement
- Presence of special facial expressions

Many of these concerns have become redundant given advances in technology whereby some sign language dictionaries are now online. The Sign Language Linguistics Society (https://slls.eu) lists the URLs for many online sign language dictionaries around the world. Other studies (Lucas et al., 2001; Stamp et al., 2014) gathered authentic data from groups of informants who were native users of the sign language they were investigating. The potential benefit of gathering data using this method, particularly with a diverse group of informants, with regard to age and region for instance, is that researchers are able to obtain variant forms. This was crucial in a Belgian study (Vanhecke & De Weert, 2004) because the aim was to determine whether or not Flemish Sign Language (VGT) was a standardised sign language or comprised of five regional varieties and, importantly, it formed part of a larger project that was to create a dictionary of signs.

Obtaining good quality data, and moreover, the way we can engage with participants to collect the data, has been made so much easier due to technological developments. For example, this study was conducted during the first lockdown restrictions implemented due to COVID-19. As will be explained in the methodology chapter, some interviews were partly conducted face-to-face but others had to be done remotely. Without video conferencing technology, this would have been impossible. Researchers now have the potential to engage with participants living in remote areas or who might be less mobile or simply because cross-linguistic studies might have a broad geographic reach.

Perniss (2015) states that obtaining good video data of the sign language under investigation is crucial and that the main concerns are the technical quality (the conditions for filming, the image quality and in a format that is suitable for further

management of the data and analysis) and the content of the video and type of data collected. Prior to obtaining the data however, there are decisions to be made regarding whether naturalistic data or stimulus-based elicitation is most appropriate for answering a specific research question.

One advantage of naturalistic data is that language is produced spontaneously and in communicative situations “not influenced by the desires and demands of the researcher” (p. 57). Potter and Shaw (2018) echo this and offer that naturalistic data is about “life as it happens independent of the researcher’s constructions, practices and interventions”. However, Perniss (2015 p. 57) also states that there is no guarantee that naturalistic data will result in the specific data the researcher is hoping to obtain while elicited data is more structured and offers more control. This presents what feels like a binary choice, so either the researcher is obtaining naturalistic data the data is being collected as part of a dynamic that is orchestrated and targeted. However, there might be the potential to facilitate a scenario where targeted elicitation can take place while retaining a naturalistic dynamic as evidenced in a cross-linguistic lexical study (Sagara & Zeshan, 2016) which I will discuss shortly.

2.2.2 Stimuli for eliciting data

Studies eliciting signs (lexical investigations) have achieved this via the presentation of different stimuli. Perniss (2015 p. 59) states that for sign language elicitation, it should always be in non-linguistic formats (pictures, short videos, drawings). She argues that the use of linguistic formats “runs the risk of structural influence on the sign language data”, for example when investigating syntactic structures in sign languages. Aldersson and McEntee-Atalianis (2008) also point out that written stimuli

could be problematic when working with deaf communities where literacy levels might be low. However, I disagree that the use of linguistic stimuli is unsuitable for all investigations and it depends on the nature of the investigation and the participants involved. For studies that are eliciting single lexical items, rather than syntactic structures, using written stimuli should not be problematic providing the participants are competent in the language the stimuli are presented in.

For their study of regional variation in Flemish Sign Language (VGT) Vanchecke and D Weerdt (2004) elicited data with the aid of supporting graphic materials such as pictures with specific themes, as did Osugi, Supalla and Webb (1999) with their study of gestural systems on Amami Island and Bickford (2005) for his study on sign languages of Eastern Europe. Meanwhile, Sverrisdóttir and Þorvaldsddóttir (2012) used colour cards for their study of colour signs in Icelandic Sign Language.

One potential difficulty that could arise with using graphic materials though, is confusion as to the concept that the researcher is trying to elicit. A picture of a house with an arrow pointing to the roof may elicit the sign HOUSE rather than ROOF. Another is that there might be instances where some words of a more abstract nature may be difficult to convey pictorially. However, when dealing with non-literate communities or where literacy maybe low, it may be the only option. In their study of lexical variation and change in BSL, Stamp et al. (2014) used a combination of words, digits and images as shown in figure 2.10 (p. 6). Meanwhile in her study of lexical variation in BSL (focusing on the region of Leeds) Blount (2018) used slides for presenting the numbers in a similar way.

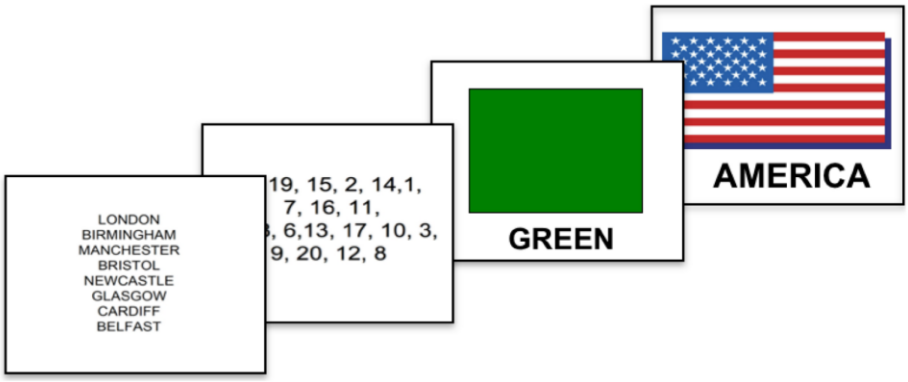

Figure 2.10 Elicitation materials Stamp et al. (2014)

In their study of mutual intelligibility among the sign languages of Belgium and The Netherlands, Sáfár et al. (2015) used linguistic formats by presenting signed texts to participants in Flemish Sign Language (VGT) using a mix of variants from different Flemish provinces. Participants who were native users of French Belgian Sign Language (LSFB) and Netherlands Sign Language (NGT) then were able to identify any lexical items that were manually identical (the associated mouthing was edited out of the signed texts by placing an oval shaped blur on the mouth of the signer).

Word lists have been used for elicitation tasks in lexical studies of sign languages for some time now (Aldersson & McEntee-Atalianis, 2008; Al-Fityani 2007; Bickford, 1991; Hurlbut, 2000; Johnston 2003; McKeen & Kennedy, 2000). A commonly used standard word list has been used for spoken language research in the comparative historical study of languages. and by inspection of the comparable word lists the relationship of closely related languages can be discovered (Gudschinsky, 1956). In the 1950s, the linguist Morris Swadesh (1955) devised a standard word list of 200 items to examine the rate of historical change in the vocabulary of different Indo-European languages. All items in the list shared certain features, namely that they

were high frequency items, common to all languages, and learned at a young age by children.

However, the Swadesh word list was developed with spoken languages in mind and a fair number of the items contained in the original list were body parts and personal pronouns. Due the propensity for these to be conveyed in sign languages by way of pointing, they were considered problematic for studies undertaking comparative studies of the lexicon of sign languages because they could yield false results (due to the signs for these e.g. ARM, ME, LEG, YOU being produced in the same way). Woodward (1978) made some important modifications to the original Swadesh word list replacing these items with other terms that were more suitable for the purposes of sign language research and used this to undertake a comprehensive comparison of signs from American Sign Language and French Sign Language. Many lexical studies that seek to determine similarity or relatedness use word lists to elicit data that comprise of items from various semantic fields such as colour, kinship terms, animals, numbers, some verbs and nouns and are generally items that are high frequency and common to all languages and cultures.

It appears that there are no *standard* word lists for exploring a specific semantic field and it is left to researchers to put together items that they feel are most conducive for their particular investigation as Pottinger (2013) did for her exploration of technical signs for theatre terms (see section on glossary projects). For some studies there is a definitive list such as those that might explore signs for days and months (Woll, et al., 1991) as there are only 7/12 items respectively for each category. Similarly, a word list that explores kindship terms might not have too many items. I would argue that

while we have infinite numerals, a list for such a semantic category might be fairly straightforward but being mindful that number systems differ in their morphology and regularity.

What can be drawn from this discussion around data collection is that there are advantages and disadvantages to both naturalistic and elicited data and with the latter, the type of stimuli used. These need to be considered and the most suitable approach undertaken depending on the aforementioned variables (the type of data and the community/participants the researcher is working with).

2.2.3 Lexical investigations into specific semantic fields.

Many lexical studies of sign languages such as the ones previously mentioned chose to undertake cross-sign language comparisons or investigated lexical variation and change within a single sign language. As previously stated, the word lists compiled for elicitation included items from a number of different semantic categories. Meanwhile, other lexical studies have chosen to focus on certain semantic fields. For example, numerals have been explored in BSL, (Skinner, 2007; Stamp et al., 2015) Japanese Sign Language (Sagara, 2016), NZSL (Mckee et al., 2011) and Chinese Sign Language (Yang, 2016). Meanwhile colours were investigated in Estonian Sign Language (Hollman & Urmas, 2011), Icelandic Sign Language (Sverrisdóttir & Þorvaldsddóttir, 2012) and Indonesian Sign Language (Palfreyman, 2016) while kinship terms were the focus of research in Czech Sign Language (Richterová et al., 2016). Meanwhile colours *and* numerals were investigated in Spanish Sign Language (Báez-Montero, & Fernández-Soneira, 2016), and Takkinen et al. (2016) explored all three of these aforementioned fields.

McKee et al. (2011) explored number variation in NZSL and found a high degree of similarity in 10 of the numbers (1,2,4,5,6,7,14,15,16,17) and variation in the other 10 (3,8,9,10,11,12,13,18,19). The findings revealed that younger signers, signers from the south and central regions of the country and female signers favoured the more frequent forms while signers over 45, those in the north and male signers opted for the non-frequent forms. Younger signers preferred Australian Signed English number forms (introduced into the New Zealand deaf education system in 1979), which resulted an increase in standardisation in the number system. Stamp et al. (2015) state that the unique nature of sign language communities (peer acquisition of the language, geographically spread) means that it is not clear how variation might manifest. They propose that the patterning pertaining to variation in other urban populations is relevant when considering the patterns exhibited in BSL. Their study found that the age of the participant (older signers preferred the traditional forms) was the most significant factor in predicting traditional number signs followed by school location (signers who lived in the same region where they went to school tended to prefer traditional number signs). One possible reason for this might be that these signs were learned when participants were children.

One important and rather fascinating cross-linguistic study was undertaken that chose to focus on three semantic fields; colour terms, kinship terms and numerals (Sagara & Zeshan, 2016) and involved data from 33 different sign languages with innovative strategies for elicitation. The study was conducted in three overlapping phases. The first phase was to recruit a network of co-researchers, to work with the core research team on gathering information from their respective sign languages. At the same time the core research team developed a range of research tools (materials for elicitation games and questionnaires) to share with the co-researchers, and this international

network collaborated in the second phase of collecting data (supported by the core research team). Finally, the data were sent to The International Institute for Sign Language and Deaf Studies. I suggest that this cross-linguistic study might constitute a collaborative enquiry even though the authors do not specifically describe it as such.

The approach taken used targeted elicitation and the authors (Sagara & Seshan, 2016) explain that this was because lexical items pertaining to certain semantic fields, colours for example, are less likely to occur in spontaneous conversation. With regard to stimuli, to elicit structures in the chosen semantic fields (colour, kinship terms and numbers), a range of materials were provided to the co-researchers working with participants in their respective countries. Most of the elicitation activities involved games rather than simply using graphic materials and involved pairs of signers in an attempt to obtain actual usage of signs in communicative interaction.

Detailed instructions on how to to use the elicitation activities were provided to all participants in International Sign and English. The colour game involved two players, a director and a matcher. The matcher could not see that directors coloured images and the director could not see the matchers coloured chips. The goal of the activity was for the matcher to identify the colours based on the director's description for each of the 15 images (each a different colour). The number game involved a bargaining activity with players taking on the role of buyer and seller. Lastly, the kinship terms were elicited through two additional games, the wedding planner game and the family tree game. What is impressive about these strategies for obtaining data is that they transcend the binary choice of either naturalistic *or* elicitation by combining both: orchestrating a realistic environment (communicative interaction) in order to target and elicit the specific data that they wanted.

One motivation for discussing these aforementioned studies is to frame my investigation which is a lexical study, involving sign language users, exploring a sign language and obtains data through targeted elicitation using written stimuli. However, it feels important to say that it contrasts with these types of investigations in at least two ways. The first relates to the lexical items explored. It appears from the literature that for lexical studies of sign languages, the standard word lists tend to draw from a number of different categories but as already explained, the items tend to be everyday and well-known. The semantic fields tend to be the same usual suspects; colours, numbers, kinship terms, days of the week or months.

What makes my study different is that it explores a category that is the opposite to the features of these other semantic fields (learned early on by children, high frequency, and common to all languages) and constitutes what could be described as technical, and rather abstract, language. Another difference is that the choice of semantic field impacts the kind of participants who need to be involved. Therefore, for this present study, the participants (informants) could not comprise of a cross-section of the general population, determined perhaps by geography or other factors but instead need to be strategically recruited based on their knowledge of what the terms mean and crucially, because they are more likely to use them.

Lexical investigations of sign languages that explore subject-specific terms are very few in number. Quinn and O'Neill (2008) explain that there is a dearth of signs for technical terms because of the systematic exclusion of deaf people from teaching contexts following the 1880 Milan Conference. This event was a meeting of educators who came together to discuss the education of deaf children that resulted in the use of sign languages in schools being banned and saw deaf teachers removed from

teaching positions (Moores, 2010). Aldersson (2019, p. 80) explains that “the deleterious impact that this has had in the intervening decades on the status of sign languages and the education of deaf children is considerable”.

Talking specifically about science terms, Quinn and O’Neill (2008) explain that although deaf people are involved in scientific-related fields, they tend not to discuss their work with other BSL users. Many work in isolation with hearing colleagues and consequently there tends not to be much discussion about suitable signs for subject-specific vocabulary. This has resonance for me and this same isolation served as a catalyst for my desire to collaborate with other teachers of English to sign language users to explore what signs are in use.

2.2.4 Glossary projects

There have been a number of projects that seek to develop a corpus of signs in BSL for certain subjects/semantic categories that could be described as technical language. One project set out to develop an arts signs glossary developed by a midlands-based university. J. Wilson (personal communication March 16, 2021) explains that the project did not involve many deaf sign language users and no sign language linguists and the signs on the website were rejected by the deaf community and sign language users. Wilson explains that shortly after this, deaf artists collaborated on a project with the Tate Modern to create a glossary of signs with explanations of the terms. He says, *“*We worked on translating art terms, such as Cubism, Rococo, Baroque, Impressionism, Kinetic etc. It was launched also at the Tate Modern and this time it was accepted wholeheartedly by the Deaf community. Unfortunately, the glossary is no longer available*.”*

Another project (Pottinger, 2013, 2018) orchestrated by a sign language interpreter with a dual professional role as a stage manager involved a team of deaf professionals (and some hearing practitioners) working in the respective fields of theatre, education and interpreting. They came together to develop a glossary of signs for technical theatre terms supported by a grant from the Arts Council. Pottinger explains (personal communication 20th March, 2021) that over the duration of a residential weekend, the participants set about discussing how technical terms could be articulated in BSL.

Participants including a lighting designer, a sound person, a set designer, a costume designer and a stage manager each gave a talk about their roles and their "top 10" terms that might be used pertaining to their work. This was followed by a brain storming activity where as a group, participants compiled a list of terms and set about creating signs. The process was supported by two deaf sign language linguists who were not subject specialists but had the linguistic knowledge to support the process of creating signs.

The residential was held at a venue that was a functioning theatre, which Pottinger explains was conducive for the process because they were able to look at the equipment and apparatus in situ when deciding the signs. Pottinger gave the example of a piece of equipment called a gobo which is a cut-out pattern that can be put into a lantern so that the pattern shines onto the wall or the floor of the set. She explains that they devised a sign using a standard handshape in BSL used for other signs that provided some iconic representation of the gobo together with the established sign PATTERN. She explains, "the two signs were not new but the way that we used them together was new." The end product of this collaboration, perhaps constituting a

collaborative enquiry, was a website (https://techtheatrebsl.wordpress.com/glossary-2/) with the signs and their definitions presented bilingually (Pottinger, 2012).

Other glossary projects are currently in progress. One is being developed by Deaf Rainbow UK, an organisation whose aim is to provide information and support to deaf people who identify as LGBTQ+ or who are coming out. One of their ongoing projects is to establish a glossary of signs for terms that relate to the LGBTQ+ community. While some terms such as “gay”, “lesbian”, and “bisexual” have established signs in BSL for many years now, there seems to be a dearth of established signs for others such as “transgender”, “cisgender”, “intersex” and “non-binary”. The founder of Deaf Rainbow UK, Woolfe (personal communication May, 2020), explains that terms are discussed by deaf users of BSL who identify as members of the LGBTQ+ community. As a result of some attempts to develop new signs, the organisation decided to approach some LGBTQ+ individuals with a background in linguistics, and some academics. The terms and signs were discussed and consensus was agreed and the deaf members were filmed modelling the signs. Their glossary can be seen here: http://deaflgbtiqa.org.uk/bsl-glossary/ and is still undergoing development. Meanwhile Fletcher (2021), a deaf information technology specialist and computer engineer announced on social media that he is collaborating with sign language linguists, educators and other professionals to develop a glossary of signs for computer/technology terms.

It feels important to spend some time discussing the crucial and innovative work of the BSL Glossary Project. Quinn, Cameron and O’Neill (2021) report on the work of the project at the Scottish Sensory Centre, which is still ongoing. The authors discovered that some signs were being used for scientific terms that are “not used in the right

context” (p. 28). They give the example of BLACK and HOLE as a direct loan translation for “black hole” but this is not contextually accurate in BSL since the sign for the colour BLACK together with the sign for HOLE does nothing to accurately convey what a black hole actually is.

The BSL Glossary Project began in 2000 with Dr Mary Brennan (the sign linguist who coined the term “British Sign Language”, in 1975). The authors explain how Brennan collaborated with Dr Gerry Hughes, a research associate developing mathematical terms in BSL and together they created a BSL glossary. Since then, other glossaries for chemistry, biology, physics, astronomy and geography have been developed. The project team now comprises of deaf scientists, mathematicians and sign linguists, all of whom have BSL as their first language, and some doctorate, master’s and undergraduate degree students. For cases where there are specialisms/subject areas where there are no deaf experts, hearing subject specialists are invited to collaborate and communication is facilitated by sign language interpreters.

Members of the project team are given a talk to understand how the signs can be developed using the linguistic principles such as compounding and exploiting iconicity (including metaphorical iconicity). The authors explain that project team members are invited to a subject-specific workshop having received a list of scientific terms and definitions prior to this, and this is a starting point for discussions that explore whether or not participants are aware of any signs for these terms. Cameron (2017) explains that scientists are paired up with sign linguists to develop the signs and that it is crucial that everyone agrees. Signs are developed over the course of an intensive weekend and that any uncertainty about a sign is unpacked with a view to improving it.

Quinn, O'Neill and Cameron (2021) explain that when creating new signs, the team follow a principle that they call "families of signs". Where groups of terms have related meanings, the goal is to ensure that the signs are congruent morphologically, and united by a common root handshape. Fingerspelling and initialisation tend to be avoided as much as possible and their rationale is that BSL does not have a large number of signs based on fingerspelling.

Quinn and O'Neill (2008) give the example of "exothermic" and "endothermic". If signs for these terms are realised by fingerspelling the letter E with only mouthing to distinguish them, it constitutes "English words pretending to be BSL". They state that as children are exposed to more terms, an increasing number of terms with the same initialisation, distinguished by mouthing only, results in confusion. Units of measurement are one exception and they give the example of N being used for "newton". Another is the use of the manual alphabet for chemical elements.

Signs for the BSL glossary are developed as per a number of stages (Quinn, Cameron & O'Neill, 2021 p. 29) and an abridged description is illustrated in figure 2.11. The process of developing signs for the BSL glossary is a considered and robust process and the phased approach to the development of the glossaries has the hallmarks of a collaborative enquiry. Quinn, Cameron and O'Neill (p. 31) explain that the demonstrations to learners and other professionals outside the project team, using the newly formed signs in context, are crucial for helping learners understand concepts and additionally supports teachers and communication support workers working alongside deaf learners to better communicate science in BSL. Finally, they acknowledge that signs may change over time and some will be adopted by the wider community of professionals referring to these terms and some will be dropped.

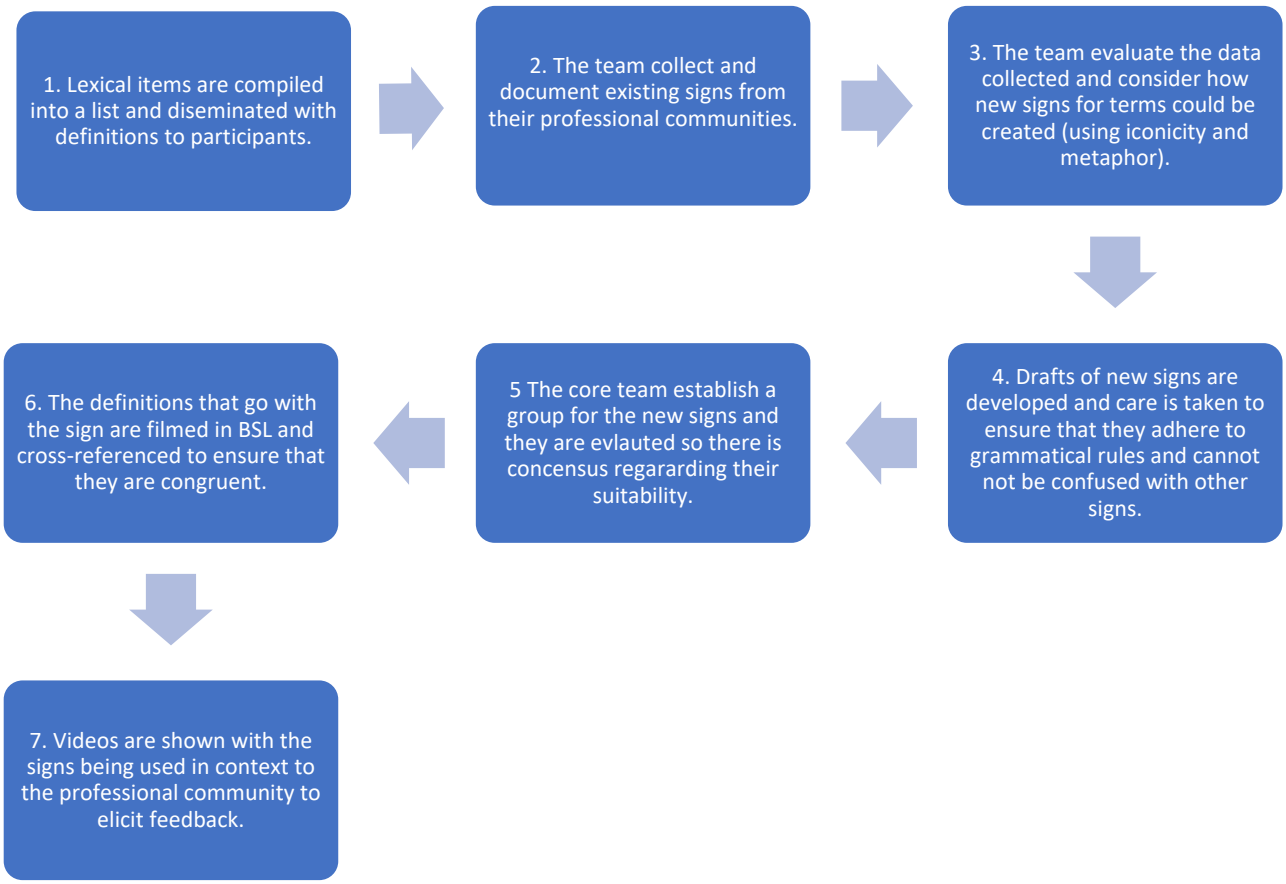

Figure 2.11 BSL glossary project stages

Although my investigation did not seek to create new signs or provide a glossary, if we consider the stages of the BSL Glossary project, my study sits in stage one and two. This is at the preliminary stage where a list of terms is compiled and signs are collected from the relevant professional community. For my study, participants comprised of professionals who work in contexts where English is taught to sign language users. As per the BSL glossary project, participants were carefully selected for their knowledge of the meaning of the terms and because they are likely to be working in contexts where signs for these terms might be used.

While my study explores my own practice it also explores the practice of my fellow teachers and other professionals working in similar contexts. I perceive us as a community of professionals and therefore before I state my research questions it feels

important to spend some time discussing practitioner research and in particular one model of practitioner research, collaborative enquiry. Finally, I shall discuss the idea of a self-generating practitioner community.

2.3 Practitioner research and collaborative enquiry

2.3.1 Research, education and practitioner research

Menter et al. (2011) state that a relatively simple definition of research, and one that helps serves as a reminder of three key elements pertaining to undertaking research in education could be described as “a systematic enquiry; the outcomes of which are made available to others” (p. 3). The three elements that they refer to are illustrated in figure 2.12.

Figure 2.12 Elements of research

- Enquiry refers to the act of investigating and endeavouring to acquire new knowledge and understanding
- Systematic – this refers to having a planned and consistent method that involves a rationale and an approach that can be explained and defended

- Sharing outcomes refers to the importance of disseminating the findings

Menter et al. (p. 3), define educational research as “systematic enquiry in an educational setting carried out by someone working in that setting, the outcomes of which are shared with other practitioners”.

Baumfield and Butterworth (2005) explain that studies have indicated that engagement in research by teachers has a positive impact on learners. One reason for this is offered by McLaughlin et al. (2004 p. 5) who suggest that teachers who engage in research develop a “better understanding of their practice and ways to improve it”. Additionally, I propose that teachers who engage in research might be more motivated as it gives their work value and meaning and prevents their day-to-day work becoming mundane. Research is an important factor in practitioners’ personal and professional development but an important consideration is: who gets to decide what practitioners do with regard to their own personal and professional development?

Speaking personally, I feel that being able to determine the nature of one’s own development is crucial and this present investigation was orchestrated by myself as part of a doctorate I embarked on. Campbell et al. (2004) state that many researchers feel that autonomy and self-determination are the hallmarks of professionalism. They also state that changes in the last 20 years (so 1984-2004 but I would argue is still true today) have resulted in a decrease in teachers’ professional autonomy and very different from Stenhouse’s (1975 p. 144) ideas of “autonomous professional development through systematic self-study….and through questioning and testing of ideas by research”. What Campbell et al. (2004) are referring to when they talk about a decrease in autonomy is deprofessionalisation and so being the driver of my own

professional development has been important. It is necessary to add that autonomy does not necessarily mean that as practitioners we have to undertake research alone however, but instead means having the freedom to orchestrate the type of development and continuing professional development activities that we feel is right for us.

To return to research outcomes, according to Menter et al. (2011), a primary purpose of practitioner research is to improve teaching practice and learning outcomes, therefore dissemination of the findings is crucial. They state that it is almost always the case that it is undertaken by those who wish to develop and improve their own practice. However, they also note that research should be possible, and desirable, and that others should benefit from hearing about, and responding to, the research. This feels pertinent because this investigation is about contributing to the field of Deaf Education and having some positive impact that extends well beyond my professional practice. It is because of this and a desire to look beyond my classroom that I wanted the study to be collaborative and for that sense of community and collaboration to continue after the study concludes. For this reason, I approached the study in the style of a collaborative enquiry.

2.3.2 Collaborative enquiry

Collaborative enquiry (CE) is also referred to as “cooperative” in the literature. However, a survey of a number of articles and chapters suggest that the terms are interchangeable - additionally, “enquiry” and “inquiry” - and so in this discussion I shall use the term CE to refer to both as being the same thing. Heron (1996) gives a brief history and explains that his model of CE began in the late 1960s when he started to reflect on the experience of what he calls “mutual gazing” in interpersonal encounters.

This reflection resulted in a paper called “The Phenomenology of Social Encounter: The Gaze”. Heron presents that the conventional social scientist cannot undertake enquiry into the nature of “the gaze” by undertaking experiments “on” and gathering data “from” other people. He argues that it can only be explored fully from within and posits that the researcher is also a “socially sensitive subject” involved with “mutual gazing” with another. He elaborates further stating that any research where researcher and subject are the same, it is “co-operative” involving a reciprocal relation with another person who is also both researcher and subject.

In the intervening decades CE has been further developed by Heron (1996) and Reason (2003) and collaboratively (Heron & Reason, 2005). They define it as a type of research where:

- Everyone is engaged in the design and management of the enquiry
- Everyone can take initiative and exert influence on the process
- All participants work together as co-researchers and as co-subjects
- Everyone is involved in making sense of the data and drawing conclusions

The definition presents a slight problem in terms of how I am framing my study. I appreciate that I designed the study and no-one influenced the process. It is why I cautiously propose that the study is in the *style* of a CE to acknowledge that there are perhaps certain aspects of it that do not meet the criteria laid out by the definition. Perhaps though, definitions can expand over time. My previous focus earlier in the EdD was translanguaging, initially defined as a description of a linguistic process (and contextualised in language learning), using one language to talk about another. It has since been developed into a practical theory of language (Li, 2017) and research into translanguaging now pertains to many contexts outside education.

Heron and Reason (2005) also state that CE is a way of working with other people who have similar concerns to oneself, in order to develop new and innovative ways of looking at things, to create change and improve things. During the investigation, I was undertaking research within my own professional community with fellow practitioners who teach English to sign language users. I was not on the outside but on the inside and perhaps constitute a “socially sensitive subject” (Heron, 1996).

Additionally, a feature of CE is the idea of a phased approach to the study whereby collaborators explore issues under investigation and then reflect on the findings together. It feels worth mentioning that my idea of a phased approach to the project came first, and learning about CE came second. I had always liked the idea of exploring how teachers realised these terms in BSL and then bringing the data back to those involved for reflection, and for us to make sense of the findings together. Finally, a key tenet of CE is undertaking research *with* rather than *on* people (the title of Heron and Reason’s 2005 paper) and my investigation set out to create a collaborate dynamic as teachers exploring together. Ultimately, it was an enquiry and it was collaborative in that I was positioning myself as a fellow teacher, engaging with my fellow practitioners and we discussed the findings together. It is on the basis of these aforementioned features that I argue that the way the study has been devised fits with the ideals of CE.

During the period where I was thinking about CE, I participated (in my other professional role as a sign language interpreter) in an event “Reimagine Research” run by the Wellcome Trust, a global charitable foundation based in London. The event was an opportunity to explore how a better research culture can be developed on the

premise was that current practices prioritise output which undermines the quality of research and that we can reimagine how research is conducted.

One of the presentations was of particular interest, delivered by a professor of neurosciences (Geurts, 2021). Geurts states that individualistic research has long been strongly encouraged but that there needs to be a shift to encourage and support team and collaborative research. He argues that different profiles and backgrounds should be integrated into one whole where the interplay of talents and skills and diversity make a good team. He proposes that collaboration is essential for breakthroughs and teams of researchers, trained in and from different disciplinary fields who undertake research together, are successful because their individual strengths and expertise demonstrably reinforce each other.

Meanwhile, on the subject of reflection, Tillema and Van der Westhuizen (2008) discuss how reflection is conducive for explicating knowledge but point out how individual refection remains “implicit and local” (p. 53). They argue that it can lead to “idiosyncratic knowledge that is not subject to scrutiny and change among teachers”. Therefore, knowledge productivity that is valued more widely needs to be open for discussion and collective reflection in order for it to become relevant and this can only be achieved when information and ideas can be exchanged with others. They posit that exchange and dialogue, together with reflection are central features for knowledge productivity. Collaborative discussion and an exchange of ideas are underpinned by the intention to study the context and explore cooperatively.

2.3.3 Communities of practice

This study had two goals; the first was to explore how practitioners navigate talking about metalanguage, specifically in BSL, but in the background there was a bigger picture with a goal of establishing a community of practitioners and a collaborative enquiry group. Lave and Wenger (1991) first introduced the term in their book “Situated Learning” and was developed further by Wenger (1998). Wenger (2011) defines communities of practice (CoP) as being formed by people who engage in a process of collective learning in shared domain of human endeavour. He states that "communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (p. 2). He sees three elements as being crucial, illustrated in figure 2.13

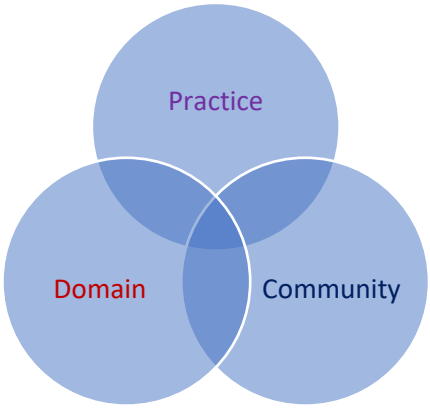

Figure 2.13 Characteristics of communities of practice

These overlapping elements constitute a CoP. There are certain characteristics Wenger suggests are integral to these respective elements and I have captured these in figure 2.14. Wenger states that when these are developed in parallel, a community is cultivated.

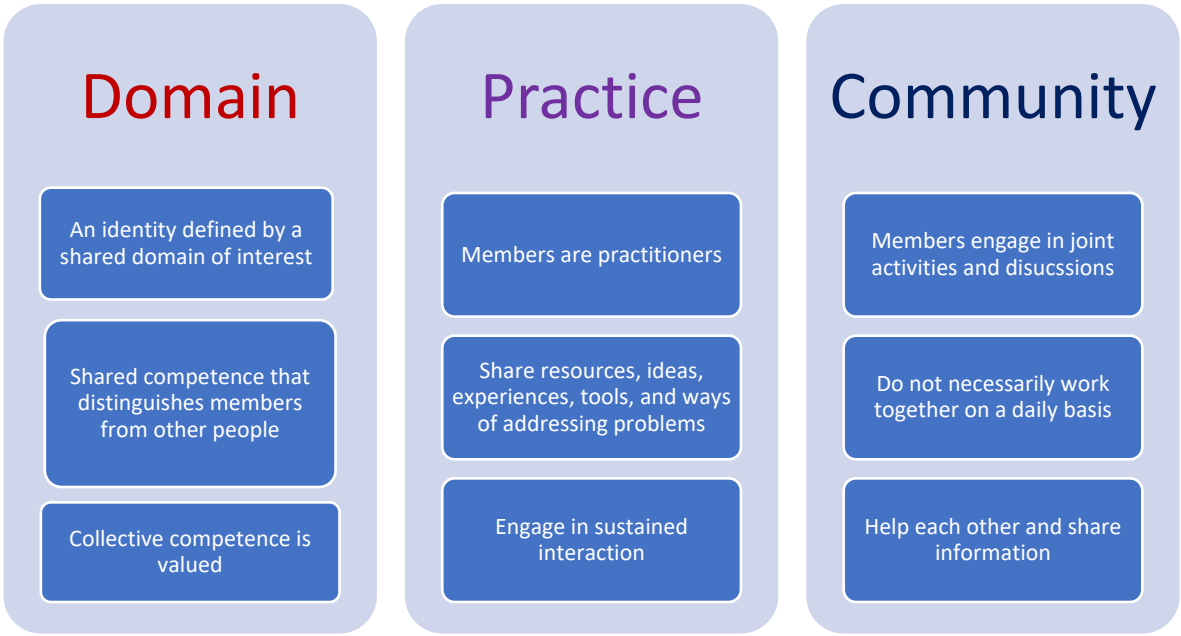

Figure 2.14 Characteristics of communities of practice

Wenger provides some helpful examples which elaborate on some of these. For example, when acknowledging that members of a CoP do not necessarily work together on a daily basis, he refers to The Impressionists who used to meet in cafes and studios to discuss the style of painting they were developing together and points out that these interactions were essential and yet these artists painted in isolation. With regard to the "practice" element, he gives the analogy of nurses who regularly meet in cafeterias in hospitals who might not realise that their informal conversations are a significant source of knowledge for how to care for patients. It is in the course of these interactions that a shared repertoire for practice develops.

I have experienced this in both of my professional roles as a teacher and as a sign language interpreter. As a community interpreter, I rarely co-work with other interpreters and so on the rare occasions when I do co-work with others, break times, and on occasion a drink together after work, provide an opportunity to share experiences and exchange strategies. The idea of a CoP also fits with my rationale for

my study because it was the desire to collaborate and reduce isolation that was the driver for the study. The topic itself, how metalinguistic terms are realised in BSL, was of particular interest but in this sense the study was a catalyst for the process of developing a network of practitioners of English teachers working with sign language users. I appreciate that the online collaborative enquiry group which was formed as part of a bigger picture attached to this particular investigation (TESLU: Teaching English to Sign Language Users) is perhaps a bit more organised and formalised, rather than something that has come together naturally and without formal organisation.

2.3.4 Research Questions

The over-arching research questions were fairly straightforward and sought to elicit the following:

How do individuals navigate referring to and using metalanguage in the context of teaching English to sign language users?

And more specifically:

When using BSL to refer to metalinguistic terms, how are these realised?

Finally:

What reflections and observations do participants have regarding the elicited signs and ways of expressing these metalinguistic terms? What do participants think we can do with the data and what might we be able to do in terms of moving forward with this project?

Chapter 3: Research Design & Methodology

3.1 Overview

The investigation was a qualitative study and framed as practitioner research. I approached it in the style of a collaborative enquiry (CE) with the aim of establishing a dynamic that created a sense of professional engagement with the participants. This way the investigation as practitioner research was not only about my practice but theirs too. A key feature of CE is an “exploring the issue” phase and a “reflection” phase. The first phase involved an initial round of interviews which explored how metalanguage is generally referred to in the classroom and more specifically, how metalinguistic terms are realised in BSL by the participants. The second phase involved sharing the data back to the participants, followed by shorter second round of interviews that sought their reflections and observations, not just about the data but also their involvement in the study and how they feel the data might be used, and how we might build on this current research. The sample consisted primarily of teachers of English to deaf sign language users, but some deaf sign language linguists and a small number of interpreters and communication support workers were also recruited (for further details see section on participants 3.11).

One feature of CE is that those involved come together to discuss the aims of the study and design it together and yet I appreciate that I orchestrated and facilitated the design as part of my doctorate thesis. However, positioning myself as a fellow teacher cognisant of the issue under investigation, rather than as external to the context, was conducive to collaboration. This was strengthened in the second phase where I invited participants back for a second interview to discuss the data that they had shared and to reflect on the study.

3.2 Methods of data collection (phase 1)

After an initial design for collecting the data for the first phase had been created, it felt important to trial that by conducting two pilot group interviews. This was conducive for ascertaining what worked well and for identifying any issues that might need to be ironed out before progressing. These interviews were conducted at the institute where I work. This proved to be crucial and resulted in a number of changes being implemented which benefited the study and proved advantageous. I shall outline the initial plan, then discuss the pilot, some of the issues that arose, and the subsequent changes that were implemented.

The primary aim of the first phase of the study was to learn more about how participants navigate talking about metalanguage in the classroom because the use of BSL might not be the only strategy. Then more specifically, to explore how terms might be realised in BSL. Surveys and questionnaires were not an option because I was collecting data in the medium of sign language, a visual-spatial language, and therefore needed to be recorded on video. One option was to obtain naturalistic data by observing teachers in their classrooms. Advantages to this might have been that it reflected actual language use. However, there was no guarantee that by collecting spontaneous naturalistic data in this way there would be enough occurrences of the data I was interested in. It would have been unlikely that I could obtain signs relating to nouns (including concrete noun, proper noun, collective noun, count noun) or verbs (dynamic, stative, modal, helping, linking, regular, irregular), if I were to observe a class which focused on end of sentence punctuation or adjectives. I therefore opted for video-recorded interviews because I felt they might provide me with a better opportunity to elicit the specific data that I was seeking.

An unstructured approach to the interviews was rejected because I did not want the conversation to drift onto topics that would not present me with the data I sought in the relatively short time that I had. As a teacher and interpreter, I was aware that these interviews were taking place after the working day when participants were tired and I was keen for the interview to take no longer than 75 minutes. Therefore, I opted for a semi-structured approach. Robson (2016) explains that with semi-structured interviews, the interviewer is guided by a list of questions with set wording and an order to the questions, but that these can be modified depending on the flow of the interview with the possibility of some additional questions depending on the responses. I liked the flexibility that this approach affords over structured interviews because of my desire for the dynamic to feel collaborative, allowing the participants to feel free to ask questions or contribute something that they felt was relevant.

3.3 Pilot interviews and changes

Two separate pilot group interviews were conducted with colleagues at the institution to which I am affiliated; one comprised of two teachers (one deaf and one hearing) and the other a group of four qualified sign language interpreters. The latter group all worked predominantly in education settings at the college. The set-up of the interviews was simple and we had a private room, my classroom, that was well lit. Equipment included my laptop and my iPhone 11 Pro for recording purposes and a small tripod. The questions to participants in the pilot were asked in the following order:

1. Do you refer to metalanguage in the classroom and how do you do that? (preliminary/warm up question)

2. Can you share with me some of the ways that you express metalinguistic terms (pertaining to English language teaching) in BSL?

A list of approximately 35 terms was open on an excel spreadsheet on my laptop and served as a prompt for question two. These terms were ones that I felt were most likely to crop up in English language classes (for example, word classes) but I was open to participants sharing signs for terms that they used. A survey of my own schemes of learning and lesson plans together with resources helped devise this prompt list and served as a way to suggest terms to participants. It included items that I refer to in my own classroom (and anticipated other teachers would also) and was particularly interested in eliciting signs for. There were four main resources that were used and selected because they were the ones that I frequently use as part of my teaching practice and comprised of three books and one website:

- Practical English Usage (Swan, 1995)
- Essential Grammar in Use (Murphy, 1997)
- Discover Grammar (Crystal, 2004)
- Perfect English Grammar (https://www.perfect-english-grammar.com)

When referring to the items in the list I spoke the words to the interpreter group and used fingerspelling for the interview that included my deaf colleague. The preliminary warm-up question worked well and generated some helpful discussion. When it came to discussing how certain terms might be realised in BSL there were a couple of issues that I soon recognised as being potentially problematic. The first was when participants were asked to share their signs. After an initial few signs were elicited, participants seemed to run out of items to share although the prompt list was helpful in this respect. Additionally, I realised that the likely outcome of allowing the participants to decide what terms they wanted to focus on would affect consistency with regard to which terms were explored across the subsequent interviews. This meant at the reflection

stage when discussing the signs, different groups might have discussed and shared their signs for different terms.

Another challenge when eliciting how certain terms were articulated was that participants sometimes leaned towards showing me how they would teach the meaning of the term to their learners. I resolved to make it clear to participants at the start of subsequent interviews that the goal was to obtain evidence of how they would express the term in BSL once the meaning had already been explained and not how they might teach the meaning of the terms to learners. However, I also made a note to let participants know that I appreciate that separating these two things might be more challenging for some terms. It is worth stating that I acknowledge that the issue of how we teach the meaning of metalinguistic terms is by no means unimportant but not within the scope of this particular investigation. However, it could serve as an excellent follow-on investigation moving forward (see chapter six for further discussion of this). After some time for reflection, I identified which parts of the pilot interviews felt problematic and considered possible solutions. Firstly, I decided that moving forward it would be prudent to avoid a situation where some terms were discussed with some groups but not with others as this might have created problems in phase two when discussing the data. Additionally, and this proved to be crucial, if all interviews focused on the same terms it would be far more conducive for being able to explore any potential variation across the participants. As a result of these reflections, the following decisions were made about the structure of the subsequent interviews.

1. The question that served as the warm-up question (that asked if participants referred to metalinguistic terms and how they did this) would be retained.

2. The terms explored would be the same for all participants/interviews and the prompt list would therefore be developed into a definitive word list for the study. The signs for the terms would be sought by way of a structured elicitation task using written stimuli via a PowerPoint presentation.

3. I would clarify that I was interested in how the term is articulated from the vantage point of the meaning of the term having already been taught.

3.4 Development of the word list and structured elicitation task

A word list was then created as the primary tool for data collection in phase one and is worth discussing in more detail. The aforementioned lexical studies of sign languages in the literature review utilised established word lists that have been used to explore the broader lexicon of a sign language (features of these lists are that they include high frequency terms, the items are common to all languages, and are learned early on in childhood) or particular semantic fields for which the terms might be more fixed or finite (kinship terms, numerals, days of the week and months of the year, or colours). I did not find any evidence of a word list for a study such as mine and therefore needed to develop one. This is the challenge for what could be described as technical language.

Using the same strategy for creating the prompt list, I set about developing the expanded word list for the purposes of the elicitation task. I reviewed my lesson plans again and had some discussions with some immediate colleagues. I made a note of the main terms that seem to be both common to the resources I accessed and those that were referred in my classes as highlighted by my lesson plans and schemes of

learning. Terms that referred to spoken English were not selected for the most part (although alliteration was included) and neither were metalinguistic terms that were not likely to crop up in an English class. For example, if this study were to explore metalinguistic terms likely to crop up in an Icelandic language class, then it would be crucial to include the terms nominative, dative, accusative and genitive (pertaining to noun declension, a feature of this highly inflected language).

The list was revised two or three times. For example, I initially included ***subordinating conjunction*** and ***coordinating conjunction*** and ***reflexive and indefinite pronoun*** before deciding to remove ***subordinating*** and ***coordinating*** but leave ***conjunction*** and similarly did the same with ***reflexive*** and ***indefinite*** but left ***pronoun.*** Additionally, in the initial list I had also included some other punctuation marks. The reasons for these revisions were motivated by trying to achieve a balance between having as many terms as I could that I was interested in while being mindful of the finite time I had with participants. The initial prompt list had about 35 items and expanded to approximately 105 items before reducing again to the final number of 87 terms. Although comprehensive for an initial study, the final version (Table 3.1) was by no means exhaustive. Writing from the vantage point of the elicitation task having been concluded, there are a number of terms that in retrospect I would have liked to have seen included such as ***active/passive voice***, ***transitive/intransitive*** verb and ***infinitive.*** However, there is the potential for new terms to be explored moving forward (including the aforementioned terms I had initially considered but subsequently removed). A strength of this study means that conversations and additional signs for other terms can be incorporated as part the TESLU collaborative enquiry group.

Given the bilingual skills of all participants (English teachers who are BSL users) I did not see the use of written stimuli to elicit data as problematic and terms were presented to participants in English via a Microsoft PowerPoint presentation on my laptop.

1st / 2nd / 3rd person	Demonstrative	Past (tense)
Abstract	Dependent clause	Perfect (tense)
Adjective	Determiner	Personification
Adverb	Direct object	Phrasal verb
Affix	Dynamic verb	Plural
Alliteration	Ellipsis	Possessive
Antonym	Exclamation Mark	Prefix
Apostrophe	Full stop	Preposition
Article	Future (tense)	Present (tense)
Brackets	Grammar	Pronoun
Clause	Helping/Auxiliary verb	Proper (noun)
Collective noun	Homonym	Punctuation
Collocation	Hyphen	Question mark
Colon	Idiom	Regular
Comma	Imperative verb	Semi-colon
Common noun	Indefinite article	Sentence
Comparative adjective	Independent clause	Simile
Complex sentence	Indirect object	Simple (sentence//tense)
Compound sentence	Intensifier	Singular
Concrete noun	Interjection	Speech marks
Conditional	Irregular	Stative verb
Conjunction	Layout (of a text)	Subject (grammatical)
Connective	Linking verb	Suffix
Consonant	Manner (adverb of)	Superlative adjective
Continuous (tense)	Metaphor	Synonym
Contraction	Modal verb	Tense
Countable noun	Noun	Time (adverb/preposition of)
Definite article	Object (grammatical)	Verb
Degree (adverb of)	Paragraph	Vowel

Table 3.1 List of terms for elicitation task

3.5 Set-up of post pilot interviews

The interviews were conducted in a well-lit room and I was positioned opposite the participants with my laptop and iphone with tripod as illustrated in figure 3.1.

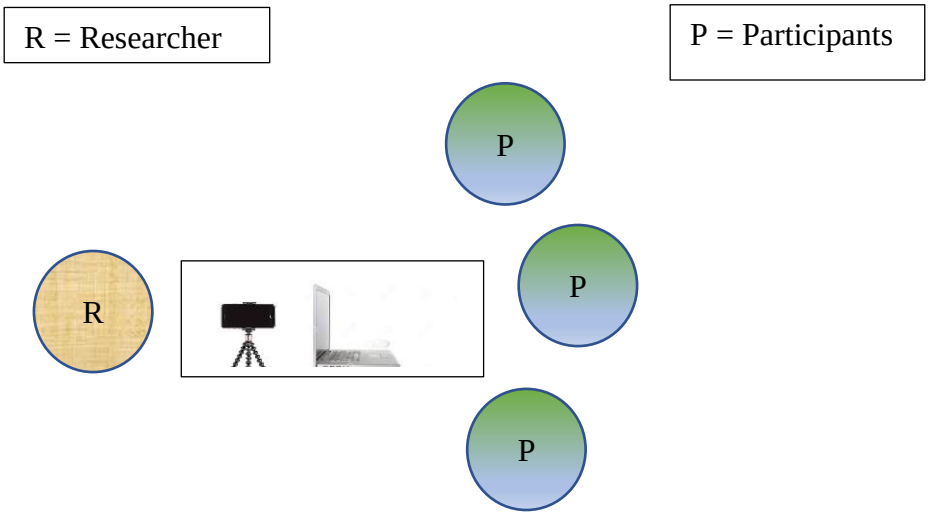

Figure 3.1 Interview set-up

Following the pilot, the interviews were tightened to a more structured dynamic, while retaining some flexibility for participants to share anything they felt was pertinent. They began with a summary of the aims of the study and to check that everyone was comfortable. It was stressed that the interviews would not be shown to anyone other than my thesis supervisors and two deaf presenters unconnected to the study who were hired to re-create the data (see section 3.8). Assimilating learning from the pilot interviews, I clarified with the participants that I was looking for evidence of how they might express the term once the meaning had been taught rather than an explanation/demonstration of how they would teach the term.

Once the introductions had concluded the interview began with the warm-up question that asked if participants used metalanguage in the classroom and if so, how they

referred to it. These preliminary discussions lasted approximately 10 minutes and separate recordings were made for these. The interview then moved onto the elicitation task. The items on the list for the elicitation task were presented to participants on my laptop as a PowerPoint presentation with one item per slide. A separate video recording was taken for each term. There were many instances where different ways of expressing terms were realised among participants *within* groups for a given term. When that happened, a separate recording was taken for each. Sometimes, even individual participants had more than one sign to share for a given term and again their respective signs were recorded separately.

Participants (see Section 3.11 for a more detailed discussion of those involved) were interviewed in small groups wherever possible (depending on availability) for a couple of reasons. One was because of the over-arching aim of the study to be collaborative. When planning the study, I was thinking about the subsequent professional impact after it had been completed and future engagement and projects. Additionally, group interviews were helpful for generating some interaction between participants that in turn was conducive for eliciting potential variant signs.

Deaf and hearing participants were interviewed separately where it was feasible. This was not a communication strategy because all were sign language users. My decision to do this was to avoid any potential feeling of unequal power relationships in the interviews. I felt that this would probably be unlikely but I wanted to allow that space and opportunity for deaf participants to discuss sign language together.

Three of the 14 interviews were conducted with one participant only and another three had a combination of deaf and hearing participants simply due to the logistics of travelling around the UK and the participants' availability. The school that had been working on an in-school glossary of signs for metalinguistic terms (mentioned briefly in Chapter 1) stated that they were happy to be interviewed together. This group comprised of three hearing and two deaf participants.

I had planned for the interviews to be conducted with myself and the participants physically present in the room together but it was during this first phase of the study that the first lockdown measures (March 2020) were implemented due to Covid-19. Fourteen interviews were conducted in total but the final four were conducted remotely using video conferencing technology. This change required some minor adaptations to the set-up of the interviews and I used Zoom as my preferred choice of platform, which had the option to record the interviews and it worked well. Individual recordings of signs were still taken on my iphone, only this time it was of the computer screen and not the live participants. This did not impact on the quality of the data. Each interview took between 60-80 minutes.

3.6 Organising the data

Prior to analysing the collected data from phase one of the study, it needed to be organised. There were 31 participants across 14 interviews and 87 items were explored resulting in over 1300 video recordings being made. The 14 separate recordings of the preliminary discussions about how participants refer to metalanguage were filed in a folder labelled "Referring to Metalanguage". The remaining recordings were short 5-20 second videos of participants sharing their ways of expressing the terms in BSL. Organising these was a much bigger task and required

more planning. I had to be methodical and detailed in terms of labelling what was a considerable data set. The first stage in this process was to create a folder "Elicitation Task" and within that further folders for each of the 87 terms (***abstract, adjective, adverb*** and so on). After each interview the videos were transferred from my iPhone to my lap top and each video recording was filed in the corresponding folder.

The process of organising and coding the video files ready for analysis felt partly analytical in itself because I had to make some judgement about the signs to determine that for a given term some signs were different from others. However, at this preliminary stage I did not focus too much on the nature of this variation other than identify that ways of expressing the terms were different from each other. Each video was labelled comprising of the metalinguistic term, a letter (A for the first interview, B for the second) and a number which related to any variants. An interview involving three participants, might elicit two, three or even four variant signs for a given term. Therefore, every single video recording of the elicited signs had a different file name. I was able to tell from the file name of the video recording which term it related to and which group gave it to me and what variant it was. Figure 3.2 shows a screen-shot of my laptop showing the labelled folders and the coded videos.

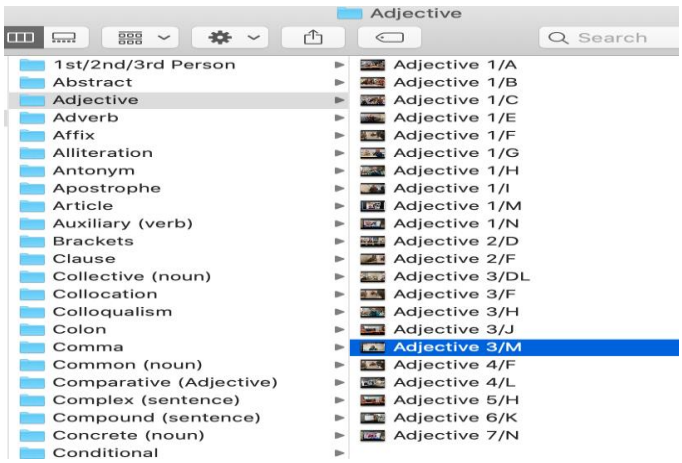

Figure 3.2 Folders with variants and labels

Upon completion of data being organised I was able to open the folder, for example, for ***Adjective,*** and using the coding system that I had implemented, see that I had collected signs from participants that evidenced seven different ways of expressing this term. It also told me that the same way of realising this term (labelled 1) came from 10 of those interviews and that this was the most frequent. It also told me that I had no fewer than four different signs from participants from interview six (F). The next stage involved preparing the data for analysis.

One example of each variant was selected for the presenters to view for the purposes of re-creating the signs, and filed into a separate folder. When examples were equally clear one was chosen at random. If one example was deemed to be articulated more clearly, or more close-up, that example was chosen. Preference was given for examples that were elicited in interviews conducted when we were physically present over those elicited during the remote interviews. This was simply because recordings that were made in person were slightly easier to see than recordings taken from a remote interview. However, when examples of certain variants were only elicited from the remote interviews, these were used. Ultimately, I ensured that all all examples chosen were clear enough for the presenters to re-create the data.

These examples of each variant (all separate video recordings) for a given term were then uploaded into iMovie, a software program on my MacBook Pro, and edited together to make one video recording with transition slides between each clip that labelled the variants numerically. Each of these newly edited video recordings (one for each term that included all variants) were then uploaded to ELAN a multi-media

annotation software designed for the creation of time-aligned text annotations to audio and video files ready for analysis (Crasborn, 2016).

The overall aim of using ELAN to analyse the signs was to be able to see the sign together with the notes at the same time. Additionally, ELAN was also helpful for slowing down the video to be able to see the parameters of the signs more clearly (handshape, orientation, location and movement together with non-manual features). Figure 3.3 shows a screen-shot from my laptop of the new folder containing a single video of all the variants together with separate recordings of one sample of each variant for the ***adjective*** and the ELAN.eaf file.

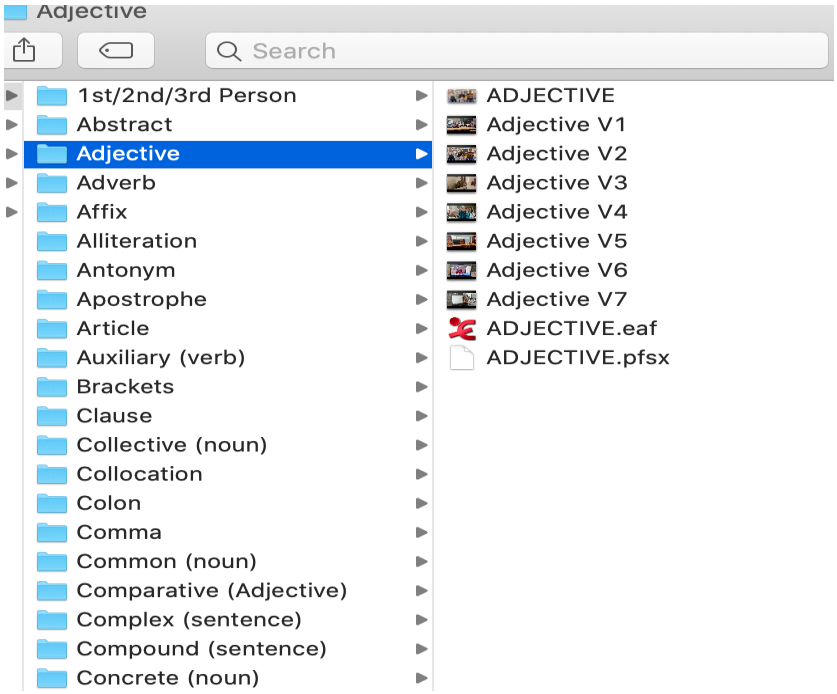

Figure 3.3 Folders with ELAN files and videos with all samples

3.7 Method of data analysis for phase one.

3.7.1 Analysis of warm up question/discussion

The warm-up discussions prior to the elicitation task, which asked participants if they used metalanguage in the classroom and how they referred to it, were reasonably brief (approximately 10 minutes each). I watched the video recordings and made notes (appendix three) that captured the key comments addressing these two main points. Some of these notes were transcriptions (sometimes paraphrased) from spoken English while others were translations from BSL depending on the language of the participants. The data were analysed using a thematic analysis. Firstly, I read and re-read the notes to familiarise myself with the content before generating initial codes that were meaningful to me which in turn became the main themes. Braun and Clarke (2006) explain that this coding process can be inductive (bottom-up), whereby they are drawn from the data themselves, or deductive, whereby it is more theory-driven and the codes fit pre-existing frameworks. My approach was inductive, and so I coded the data without trying to fit it into an established coding framework and was data driven.

The notes were collated into a single document for each interview and individual comments were highlighted in different colours as per the identified themes as illustrated below. For example, one colour was used to denote the different strategies for referring to metalanguage with deaf learners, while another was used to draw focus to any attitudes expressed about why metalanguage was important.

- Metalanguage is used in the classroom
- Fingerspelling
- Signs
- Written English/classroom resources
- Attitudes towards metalanguage
- Comments about deaf learners
- Other

This system was particularly conducive for understanding more about the main strategies used in the classroom to refer to metalanguage.

3.7.2 Analysis of the signs

The edited videos for each term, incorporating all the samples of variants together with transition slides, were uploaded to the ELAN software for analysis. Users of ELAN (Crasborn et al., 2006) can add an unlimited number of annotations which could be a sentence, a single lexical item, a contextual gloss, comment, translation or description of any feature observed in the media. As Hou and Kusters explain (2018), there are no standard transcription and writing systems for sign languages. Annotations can be created on multiple tiers that can be hierarchically inter-connected and time-aligned to the media.

There is no definitive guide for organising tiers and it is left up to individual researchers to determine how many they wish to create and what they are to be named. The specific nature of the research questions will determine what these will look like. My approach was to try and keep it simple but effective as these annotations were subsequently adapted into a single document and sent to participants prior to the second phase of the study seeking their reflections about the data.

The first tier, labelled description, served to highlight certain phonological and morphological features of the signs, features that have been identified by earlier researchers investigating sign languages and are discussed in the literature review. For example, Stokoe (1960) determined that signs have three main parameters of handshape, location and movement, and this was later expanded following suggestions by other researchers (Battison, 1974; Friedmanm, 1975; Frishberg 1975) to include orientation. Non-manual features (Crasborn, 2006) are now accepted as being a fifth parameter of signs, including mouthing. Meanwhile, Brennan, Colville and Lawson (1984) refer to the classification of signs (single signs, one handed signs, two handed signs and compound signs) developed by Battison (1978), stating that this appears to have some general validity for BSL.

The second tier, labelled 'interpretation', focused on other phenomena such as whether signs appeared to evidence iconicity or arbitrariness (Frishberg, 1975; Klima & Bellugi, 1979) or borrowing (Kyle & Woll, 1985; Sutton-Spence & Woll, 1999). One feature that was of particular interest, given my dual professional role as an interpreter and teacher, was when variants seemed to give a translation of the term in the way it was produced, and it is for this reason I am calling this 'translation'.

Description: this tier noted:

- Single signs
- Two or more signs
- Compound signs
- Handshape
- Location
- Movement
- Orientation
- Mouthing

- Manual alphabet (fingerspelling)
- Other non-manual features
- How variants for a term differed

Interpretation this tier noted if variants:

- Evidenced a visual representation/motivation (iconicity)
- Could possibly be described as transparent (the meaning would be clear to non-signers)
- Evidenced semantic change. For example, if there appeared to be a broadening so an established sign was being used in a new way for metalanguage.
- Appeared to be arbitrary (there was no discernible visually motivated form-meaning mapping)
- Evidenced a borrowing from English. This could be an English mouthing or letters from the manual alphabet or a loan translation.
- Evidenced a translation

Figure 3.4 shows a screen-shot from my laptop of an ELAN file - in this instance variant one for ***Adjective*** with the tiers and my annotations. This figure is a screen-shot of the recreation by one of the deaf presenters rather than the original video elicited in the interviews.

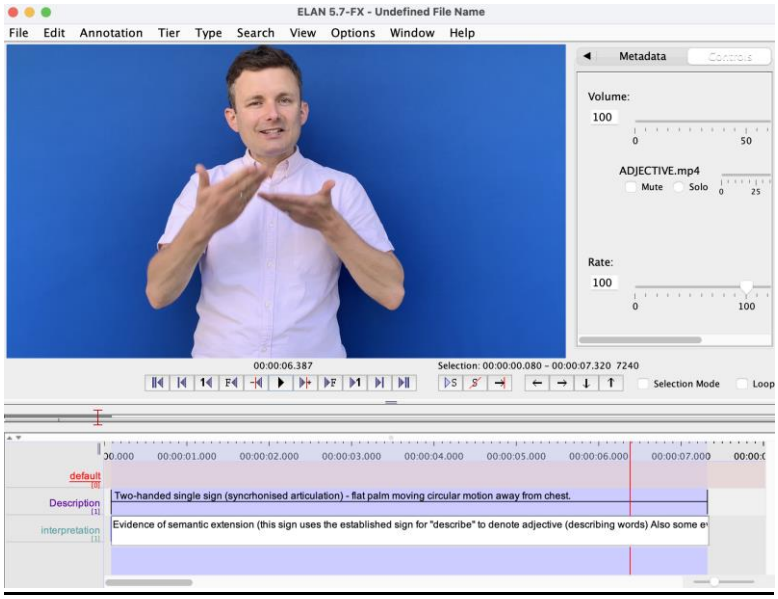

Figure 3.4: Screenshot of ELAN file (***Adjective***).

While undertaking the analysis of the signs, there were two instances that involved very brief follow-up discussions with four of the participants to get some clarity on two of the variants. Both of these variants evidenced arbitrariness with one variant for ***adjective*** being produced by three different participants, interviewed in different groups, while the other, ***stative*** (verb) was produced by the other participant. More detail is given in Chapter 4 (4.2.6) about how these discussions provided some illumination with regard to these particular variants. These very short follow-up conversations were still part of the first phase of the study and were not built into the methodology prior to data collection. Rather, they were spontaneous and to get some clarity and other participants were not contacted about other variants. The motivation to contact the relevant participants about these signs was because they were slightly anomalous. In the case of ***adjective***, this was because the same sign was produced by three different participants from different interviews in different geographical locations. Meanwhile, the variant for ***stative*** came from one person only.

3.8 Creating the videos for phase two

One important feature of the research design was balancing the need to uphold the promise to participants that the video recordings would not be shown to others while ensuring that the data could be disseminated back to all participants for their comments and reflections. Two deaf presenters (one male and one female) were hired to re-create and model the data for the dual purpose of achieving this and to make the data accessible for teachers, teaching assistants, interpreters, communication support workers, researchers and the deaf community outside the study. The presenters were otherwise unconnected to the study and were selected for their competency and clarity in BSL and their presenting experience on television and for information videos. Both are registered deaf translators with the same registration body as for sign language

interpreters, the NRCPD (National Register of Communication Professionals with Deaf and Deaf-Blind People).

The presenters recreated the original videos, alternating between each term, (e.g., one presented all the variants for ***adjective*** and then the other presented all the variants for ***affix*** and so on). Each variant was recorded separately and then edited together as one video with transition slides in between each clip to title them. Having deaf presenters undertake this task was important for two reasons; one was a political choice to have deaf people present British Sign Language but also because of their skills, intuition and careful attention to the fine detail such as contrasts in the manual parameters of handshape, location, orientation and movement as well as the non-manual features such as mouthing, negation and facial expression. We worked together as a team to ensure that the data was re-created exactly as it had been presented by the participants.

When all the videos had been created, they were uploaded to TESLU (Teaching English to Sign Language Users), a Google Classroom that served as the online space for the newly established collaborative enquiry group (a project that was underway in parallel to the study). A link to a folder with all the videos was sent to participants so that they could view the signs together with a document of my initial analytical notes (appendix four) which captured some observations about all the variants for each term. I then allowed four weeks to look at the videos and read my analytical notes before the second phase of data collection began.

3.9 Methods of data collection phase two

The next phase of the study involved a second round of interviews and served as the reflection stage, which set out to elicit participants' observations about the data. It is during this second phase that the delineation between myself as the individual who designed and facilitated the study and the participants as subjects was less defined and we had a collaborative discussion as practitioners about the data.

This phase of the study was conducted during Covid-19 and social distancing measures. Therefore, all the interviews were conducted remotely using the Zoom platform and recorded using Zoom's recording function. I used that I now had to conduct all the interviews remotely to my advantage and given that I was no longer travelling to different geographic locations I was able to make some changes to the composition of the groups. In phase one, most of the interviews tended to involve individuals who worked together in the same types of provisions because I was conducting interviews in certain geographical locations.

For the second round of interviews the constituency of the groups was such that they came from different provisions and were less likely to know each other, although some did (such is the nature of the deaf community). No interviews were conducted with a single participant as I was not constrained by travel and availability and this was important given that phase two involved more collaborative discussion. Two of the hearing teachers and one of the deaf teachers were not able to participate in phase two due to personal commitments and the three deaf sign language linguists were also unable to participate due to workload. The one thing that was consistent with the first phase of the study was that deaf teachers and hearing teachers were interviewed

separately. The remaining six hearing teachers were divided into two groups of three while the deaf teachers were interviewed in groups of three and one pair. No more than three deaf sign language users participated in the same interview to necessitate that, including myself, there were no more than four participants on the screen on Zoom. This was an important practical decision because any more and the boxes framing participants become smaller making it less conducive for sign language.

This second round of interviews were semi-structured and lasted approximately 30 minutes. The discussions were based on a number of prompt questions but participants were free to ask their own questions and comment on what they felt they wanted to raise. The prompt questions were:

- Did you find anything interesting about the data?
- Are there any signs you think worked well, or not so well?
- Is it important that signs are contextual?
- Do you have any reflections on the project as a whole?
- What do you think we should do next?

The question that asked about signs being contextual felt important. When I say contextual, I am referring to the use of signs that are suitable for the context/situation. An example of this is expressing ***regular*** as following a pattern or rule or deviating from that (when talking about regular/irregular verbs) rather than using a sign REGULARLY that is more in line with the context of talking about something being frequent.

3.10 Methods of data analysis phase two

As per the approach to analysing the pre-elicitation task discussions, the follow-up interviews in the second shorter phase of the study were analysed using a thematic analysis and involved a colour coding scheme. Once again, the coding process was inductive, and so I coded the data without trying to fit it into an established coding framework and was driven by the data.

A Word document for each interview was created and the key comments and reflections were written up. The notes were sometimes transcribed verbatim for the interviews conducted in English but often paraphrased to make them concise and clear. I translated interviews conducted in BSL into English. The text was highlighted in a range of colours to denote different comments, as illustrated below.

- General comments about the signs
- Preferences regarding the signs
- Signs in context
- Iconicity and arbitrariness
- Initialisation
- Mouthing
- Variation and standardisation
- Reflections on the study
- Ideas for next steps / future work
- Other comments

Using this process, I was able to draw together a sense of the main themes to report on the participants' reflections for chapter five.

3.11 Participants

In total, 31 individuals participated in the study in the South, West and North of England and also Scotland. I was unable to recruit participants from Wales and Northern Ireland. The majority of participants were teachers (fourteen were deaf and

eight were hearing) and the remaining nine participants were other professionals. The hearing teachers were all BSL users and most have achieved the Level Six qualification in BSL (the highest qualification available in the UK) with two also having qualified interpreter status. The participants were recruited for the study in three ways. The first was teachers already known to me because of my contacts in the deaf community. One is a headteacher in a primary school, and he acted as a gatekeeper for three of his staff. Secondly, I contacted schools and F.E providers around the UK that I knew had learners who were deaf sign language users and asked if I could be put in contact with English teachers. After obtaining a contact email, they were sent the information document (appendix one) detailing the study. The third way was with the help of the participants themselves. Some were able to suggest people they knew, which resulted in six more people being recruited for the study. One deaf participant had strong connections with other deaf teachers and served as an anchor for some of these.

A number of professionals who were not teachers were also asked to participate as I felt they might be able to offer some useful insights. These other individuals comprised of a group of three deaf linguists working in the field of sign language studies and were recruited through my personal connections with the Deafness, Cognition and Language Research Centre (DCAL, part of UCL) and interviewed together. Similarly, three qualified sign language interpreters whom I knew personally were asked to participate and were chosen for their knowledge of linguistics and experience of interpreting in educational settings.

Finally, three communication support workers (CSWs), whose role is to work with teachers and students providing language support, were also invited to be involved. Two were hearing and one was deaf. I did not set out to recruit CSWs but two of the teachers who had agreed to be involved suggested their inclusion because they all worked for the same primary provider, and had been working on the aforementioned project at their school to develop an in-house glossary of signs for metalinguistic terms. This provided an excellent opportunity in terms of their suitability for inclusion in the study. Figure 3.5 shows the composition of participants.

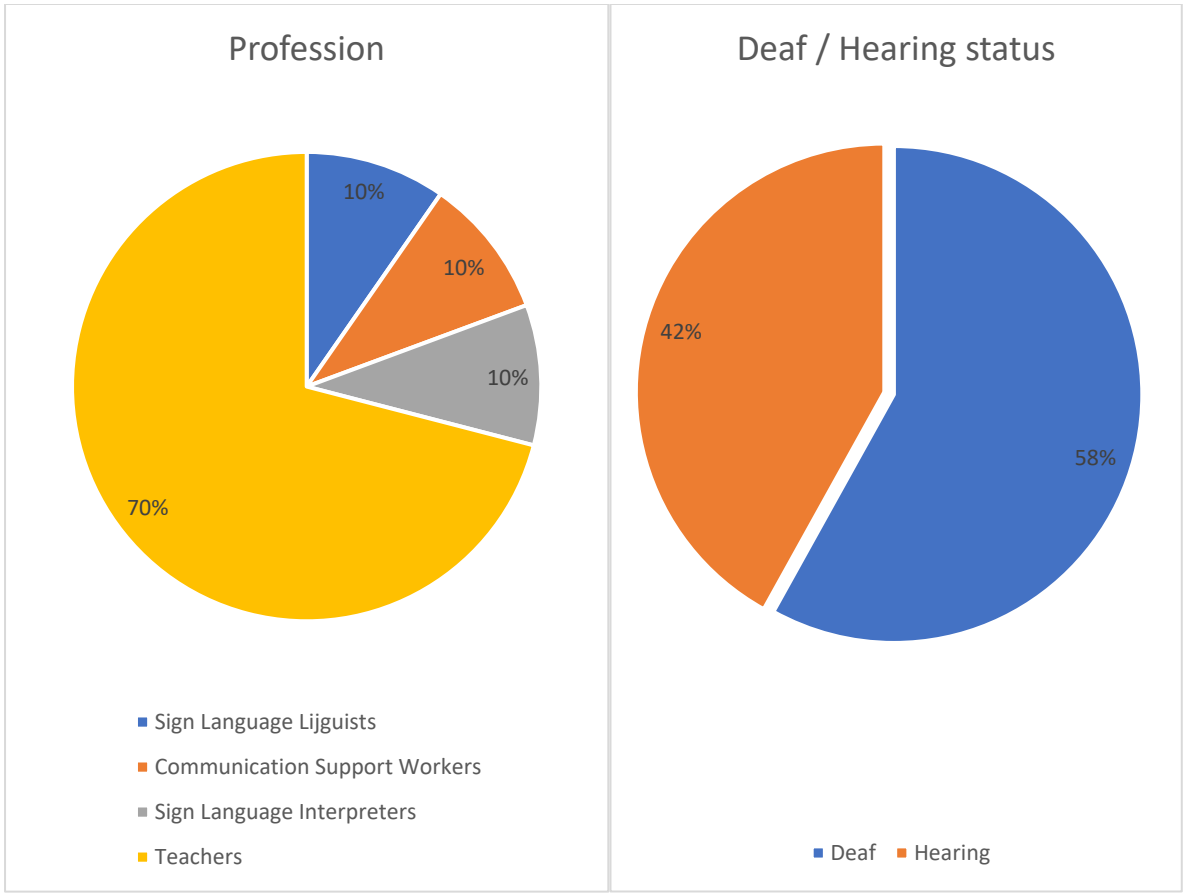

Figure 3.5 Participants

The teachers worked within various contexts as listed below and illustrated in Figure 3.6. Tables 3.2 (phase one) and table 3.3 (phase two) provide further detail about the participants.

- Primary
- Secondary
- Peripatetic teacher of deaf children (contexts include home, deaf schools, mainstream schools with deaf units)
- 16-19 post-compulsory (this particular provision was attached to a school)
- Further Education
- Higher Education
- Adult and Community Education

Table 3.2 Participants Phase 1

Pilot 1	2 Teachers (one deaf, 1 hearing)	The first pilot interview was conducted at the FE institution with which I am affiliated with my immediate colleagues who teach with me.
Pilot 2	4 Sign Language interpreters	Qualified sign language interpreters based at the provision with which I am affiliated.
1	3 deaf teachers	One teacher works for a further education provider, one works in a secondary school and one works in a 16-19 setting attached to a deaf school.
2	2 deaf teachers	These two teachers worked with two of the deaf teachers from Interview 3.
3	3 deaf teachers	Two from this group work in the same primary school as the three teachers from interview 2. The third was a peripatetic teacher of the deaf working with primary and secondary school aged children.
4	3 qualified interpreters	These three interpreters were chosen because of their background in language/linguistics and for interpreting for deaf students in educational settings (including English classes). They also work with deaf linguists.
5	1 hearing teacher	This teacher had retired but had worked for many years in a university supporting deaf undergraduate students with English.
6	1 deaf teacher and 1 hearing teacher	These participants are peripatetic teachers of the deaf (working with an age range of birth to 19). They work together for the same education authority but prior to that, one worked in a deaf primary

		school and the other in a deaf secondary school. The hearing participant in this group is qualified to level 6 in BSL.
7	1 hearing teacher	Taught English in an ESOL type community setting for deaf individuals who originate from overseas. Additionally, she is a qualified interpreter.
8	1 hearing teacher	This participant has worked as a teacher in secondary, further and community education for twenty-five years before moving to a UK university. She has been a teacher of deaf children and an EAL tutor and used both approaches in schools and colleges with deaf students. She currently undertakes research in deaf education, providing post-qualifying education for teachers of deaf children.
9	1 deaf & 1 hearing teacher	One deaf and one hearing teacher working together in a deaf secondary school.
10	3 deaf sign language linguists	These three individuals hold doctorate degrees and work for a university department that specialises in research into sign languages.
11	1 hearing teacher	Taught English in an adult community setting to deaf learners who originate from both the UK and overseas.
12	2 deaf teachers	These two deaf teachers work in a deaf secondary school.
13	2 hearing teachers & 3 CSWs (one deaf, 2 hearing)	This group of participants all work for the same primary school provision. The hearing teachers are qualified to level 6 (one is a qualified sign language interpreter and heritage signer) and the two hearing communication support workers are qualified to Level 6 BSL.
14	2 deaf teachers	Two deaf teachers working in a deaf unit as part of a mainstream school.

Table 3.3 Participants for phase two

1	3 interpreters & 2 CSWs	This group comprised of the 3 interpreters with education settings experience and 2 of the CSWs (the deaf CSW was placed in a group with a 2 other deaf teachers).
2	3 hearing teachers	Mainstream primary school with deaf unit. Secondary, and further education provisions and now responsible for a teacher training degree for aspiring deaf teachers. Community education setting
3	3 hearing teachers	Primary school (with teacher 1 from interview 2) Community education setting Peripatetic teacher in all provisions

4	2 deaf teachers and 1 deaf CSW	Specialist primary school for deaf children Further education setting with deaf adult learners CSW working in sign bilingual deaf unit
5	3 deaf teachers	Specialist primary school for deaf children Specialist secondary school deaf children Peripatetic - all provisions
6	2 deaf teachers	Mainstream secondary school with deaf unit Mainstream secondary school for deaf children
7	3 deaf teachers	Specialist primary school for deaf children Mainstream secondary school with deaf unit Primary school (mainstream with sign bilingual deaf unit)
8	3 deaf teachers	Specialist primary school for deaf children Specialist secondary school for deaf children Peripatetic - all provisions

3.12 Ethical issues

There were several ethical issues to consider when designing this study encompassing four main categories:

- Accessible information and voluntary informed consent
- Permissions, anonymity and security
- Power relations
- Dissemination

The Belmont Report (1979) stipulates that in order to make an informed decision about participating in research, information needs to be understandable and accessible. A document (appendix one) providing an outline of the study along with my motivations and rationale for the investigation was disseminated via email, together with a consent form (appendix two), to all those participants who had responded with an initial willingness to participate. Although the deaf participants were highly competent in English, I nevertheless offered the opportunity to ask questions or discuss their participation in more detail in BSL.

It was stressed to all participants that their involvement would be entirely voluntary and if they wished to withdraw their participation at any point during the investigation, they were able to do so and any data already collected would not be used. For two interviews, a headteacher acted as a gatekeeper and we discussed the importance of it being made clear to staff that participation in my study would not result in their performance as teachers being judged or evaluated in any way.

Participants were informed that the original interview data would only be seen by myself, my supervisors and the two deaf presenters who would be re-creating the signs that participants shared. I made this decision so that participants were able to freely share their signs, without the pressure of knowing that the videos would be seen by others prior to the second phase of the study when we came together to evaluate and discuss the signs. This was an important factor in securing participation from some people who only agreed to be involved and filmed after being reassured that the video recordings made during the interview in the first phase would not be shared with others. Participants were told that the presenters would only see the original interview data on the day they re-create the signs and would not retain any recorded data of the original interviews. This was welcomed by the participants and I received some specific feedback about this (see participants' reflections 5.3).

The final four interviews in the first phase of the study were conducted using the remote video conferencing platform Zoom. Around that time there had been some security concerns but Zoom responded to these with some security updates. While most of these concerns pertained to the Zoom app, these interviews were conducted on my Macbook Pro. As a precaution, I upgraded my account to a paid version of the

platform to incorporate extra security measures such as a waiting room so participants could not be admitted without the host accepting. All the collected data was kept on an encrypted hard drive and encrypted laptop. I used the fire vault feature on my Macbook Pro to encrypt it. For my removable hard-drive, I utilised an encryption program called True Crypt.

A balance needed to be achieved between the anonymity of phase one and the desired bringing together of participants to be involved in a collaborative enquiry group. For the first phase of the study and the dissemination of the signs, anonymity was more important. As the study progressed to phase two it was less important, and less feasible given there was a second round of interviews which involved groups of participants who did not work together on a video conferencing platform. Additionally, participants were registering on Google Classroom (the online space for the collaborative enquiry group where the re-created data was stored) and could see each other's names. I was keen for connections to be made and for there to be a sense of a community of practitioners. The main thing was that participants willingly participated in phase two and were not forced to join the Google Classroom. All participants welcomed the new connections that phase two instigated.

Leeson et al. (2017, p. 136) state that in the field of Sign Language Studies and Deaf Studies, it is vital that researchers be aware of the unequal power relationships that can be evident in research. They urge researchers to work with all stakeholders and emphasise the importance of a "community participatory approach". Meanwhile, Singleton et al. (2015, p. 8) stress the importance that research in these fields is "*with* deaf people rather than *on* deaf people". This latter statement echoes and supports

Heron and Reason's (2005) assertion that the practice of collaborative enquiry (speaking quite generally and not in the context of Sign Language Studies/Deaf Studies) also concerns itself with research *with* and not *on* people. It was because of the unequal power relationships that can sometimes be evident between deaf and hearing people that I was keen to create a safe space for deaf participants by interviewing them in deaf-only groups where possible.

Several scholars have addressed ethical issues (Baker-Shenk & Kyle, 1990; Harris, et al., 2009; Pollard, 1992; Singleton, 2014) regarding hearing researchers conducting studies on a community to which they are considered outsiders. My own positioning as the researcher is perhaps a little complex. I am not culturally deaf (but not all the participants in the study were either) and yet I would hope that as a sign language user (with hearing loss), and an interpreter working with the deaf community for three decades, I am less of an outsider and someone who is cognisant of, and sensitive to, the history of linguistic oppression that deaf people have faced. Moreover, I am part of this shared endeavour that is exploring how metalinguistic terms are expressed in BSL and engaged with the participants as a fellow practitioner.

With this in mind, it felt crucial to the study that it involved more deaf participants than hearing participants as this study involved sign language, sign language users and the education of deaf learners. During phase one, when conducting the initial interviews, I was asked on more than one occasion by deaf participants if they were the only ones involved, or if other deaf teachers were contributing. I explained that the key feature of the investigation was the involvement of deaf teachers and it was my goal to ensure that I had more deaf teachers than I did hearing. This information was well received

and one commented on how he felt it was vital that the views of deaf people were included. This validated my decision to recruit participants with this balance. Deaf artist and art historian Wilson (personal communication March 16, 2021) shared his thoughts on an earlier project for a glossary pertaining to art terms for which he was a member of a steering committee that comprised of mostly hearing people.

> I have never forgotten the dismay from the deaf audience as the glossary was unveiled on a big screen. Even the simple well-known sign for "art" was distorted by too much stylised movement. Deaf students involved in the project stated that they only signed what they were given or just made up the signs. So many signs were obviously made up so that they were unhelpful. To me as a deaf person, it was a historic occasion but at this public function, the deaf people rejected this project and made their feelings known to all who were there, instead of just sitting quietly and moaning to each other on how their language was trashed.

In contrast, Pottinger (personal communication March 10, 2021), a hearing sign language interpreter with a dual professional role as a stage manager who orchestrated the project to develop technical signs for theatre explains, “I am not creating the signs, I am not a sign linguist, English is my first language and it needs to come from deaf people”.

If my study belongs in the field of Sign Language Studies/Deaf Studies then it follows that I am obligated to disseminate the findings to the deaf community. Moreover, Adam (2015) stresses the importance of distributing information about sign language to deaf communities *in* their sign language. Again, another reason why framing this project as a collaborative enquiry works well is that the typical approach involves an initial phase that explores the issue followed by a reflection phase. Sharing the data with the participants and encouraging them to be included as co-researchers aligns with

Adam's assertion that sharing the findings is vital. The documented signs have been made available not only to the participants but the wider deaf community and any other interested parties. Additionally, the British Association of Teachers of the Deaf (BATOD) have advertised the link to the video resources and I have given presentations about the study (DCAL/ASLI) as described in the impact statement.

I can confirm that an ethics application form outlining this study and what would be involved was approved by my two supervisors and subsequently approved by the UCL Ethics Committee.

Chapter 4: Findings from phase one

This chapter outlines the findings from the first phase of the study. Firstly, I will report on the approach participants take when referring to metalinguistic terms. Secondly, and the primary focus of this chapter, I will report and comment on the ways these terms were realised in BSL by participants in the study.

4.1 On using metalanguage with deaf learners

In response to the warm up question, which asked if participants used metalanguage when teaching in their classrooms, without exception all teachers stated that they did. Additionally, they stated that it was difficult not to and felt that it was important. One participant commented that it would be impossible to talk about maths without mentioning the terms addition, division, subtraction, and multiplication. Another pointed out that all subjects have technical/subject-specific terminology and that metalanguage is the "technical language" of English. It was discussed how it would be difficult to explain the difference between "anger", "angry" and "angrily" without mentioning nouns, adjectives and adverbs. A similar example was used with another teacher who described how a student had asked her to explain the difference between "silence" and "silent", and that to do so it was helpful to refer to nouns and adjectives. It was generally agreed that how much metalanguage, and the terms referred to, was dependent on the level of the learners (including adults) and that it had to be age-appropriate.

Although the primary focus of this study was to specifically explore how metalinguistic terms are realised in BSL, I had anticipated that the ways teachers referred to metalanguage in the classroom might not be BSL in isolation but in conjunction with

fingerspelling and the written word as I do in my classroom. For example, when introducing the topic of adjectives, I usually have a PowerPoint presentation with the term presented in English, and I show my preferred sign to the students and I fingerspell it also. All participants reported that that as well as using signs to refer to metalanguage they too used fingerspelling and the written word in books, worksheets and on monitors. I discussed in chapter two how fingerspelling constitutes a borrowing from English but is produced manually in the visual-spatial modality like BSL. It could perhaps therefore be considered, in terms of a strategy, as the creation of a bridge between English and BSL. The data provided quite a bit of evidence of this (discussed later) such as A-D-J (***adjective***) or A-D-V (***adverb***). The three sign language linguists and the sign language interpreters stated that they often used fingerspelling as a convenient and quick way to refer to metalinguistic terms but teachers also stated that they used fingerspelling in conjunction with signs and written English.

The synchronous use of BSL together with English (so signs and the written word/fingerspelling) constitutes what Bagga-Gupta (2004 p. 184-194) refers to as “chaining”. To illustrate examples of these in my own context when referring to metalanguage, chaining occurs when I point to the term written term “adverb” on the monitor or refer to a worksheet we are using and then discuss the meaning of this term in BSL and a connection between one language and another (the link/chain) is made. I offer an explanation when I first teach the concept and I always give an example of an adverb in both written English and BSL. Participants confirmed that this practice of referring to metalanguage in BSL *and* written English was the norm in their learning contexts. An example of my students and I discussing metalanguage, specifically the terms ***regular*** and ***irregular,*** can be seen here:

https://classroom.google.com/c/NjA0MTM5NDc1MjBa/m/MTM2MzcwMzU1NDI0/details.

Although not a focus of this present study, but most certainly one worth exploring in more detail as part of a future investigation (perhaps as part of the collaborative enquiry group TESLU), the discussions turned briefly to how the meaning of the metalinguistic terms is taught to the learners. Teachers explained how BSL and English are used to do this but additionally objects, images, enactment and role-play also feature to help as part of meaning-making. One teacher explained how she used everyday classroom objects to explain the concept of singular and plural, while another used acting and role-play to help teach the meaning of prepositions such as walking *around* the table or leaning *against* the wall.

The blending and meshing of English and BSL, coupled with this movement beyond language (the aforementioned images, objects, role-play) evidences translanguaging, a theory of language that I touched upon briefly in my introduction. It is worth mentioning again that one definition of translanguaging is ‘‘the planned and systematic use of two languages inside the same lesson” (Baker, 2011 p. 288) while another is “the deployment of a speaker’s full linguistic repertoire without regard for watchful adherence to the socially and politically defined boundaries of named languages” (Otheguy, Garcia & Reid, 2015 p. 281). Meanwhile, Canagarajah (2013 p. 6) posits that “communication transcends individual languages” and also that “communication transcends words and involves diverse semiotic resources.”

4.2 How metalinguistic terms are realised in BSL

4.2.1 Variants

The first phase of the study provided rich and illuminating linguistic data pertaining to how participants expressed metalinguistic terms in BSL. From over 1300 short video recordings from the 31 participants across the 14 interviews, a total of 280 distinct ways of referring to these 87 terms in BSL were identified. The reason there were many more ways of expressing these terms than there were number of terms themselves is due to variants. Sometimes there was variation within groups as well as between groups and even individual participants shared more than one way that they might express a term in BSL.

Sometimes the variation was a minor contrast in one of the four manual parameters of handshape, movement (path or plane), location, and orientation of the hand. Sometimes the variation went further with the addition of another sign or the inclusion of English borrowing using the BSL manual alphabet or a different mouthing. Some variants evidenced a much greater contrast across three or four of these parameters rendering one variant very different from another (see appendix five for the lists of terms and the number of variants that were identified for each).

For simplicity, for instances where only one way of expressing a given term was elicited, for example the signs for ***apostrophe*** and ***intensifier***, I still refer to the sign as a "variant" even though technically there were no alternative ways that were elicited from participants. Naturally, there might be other alternatives in use beyond those exhibited by participants in this study. From this data I extrapolated the range of variants (1-10), the mode (2), the median (3) and mean (3.22) to conclude that there

was an average of three variants per term on the list. From this numerical data it is possible to observe that 17 of the terms elicited only one way of being expressed across the participants. This means that the majority, the remaining 70 terms on the list, did elicit variation of some kind. Figure 4.1 provides a visual overview.

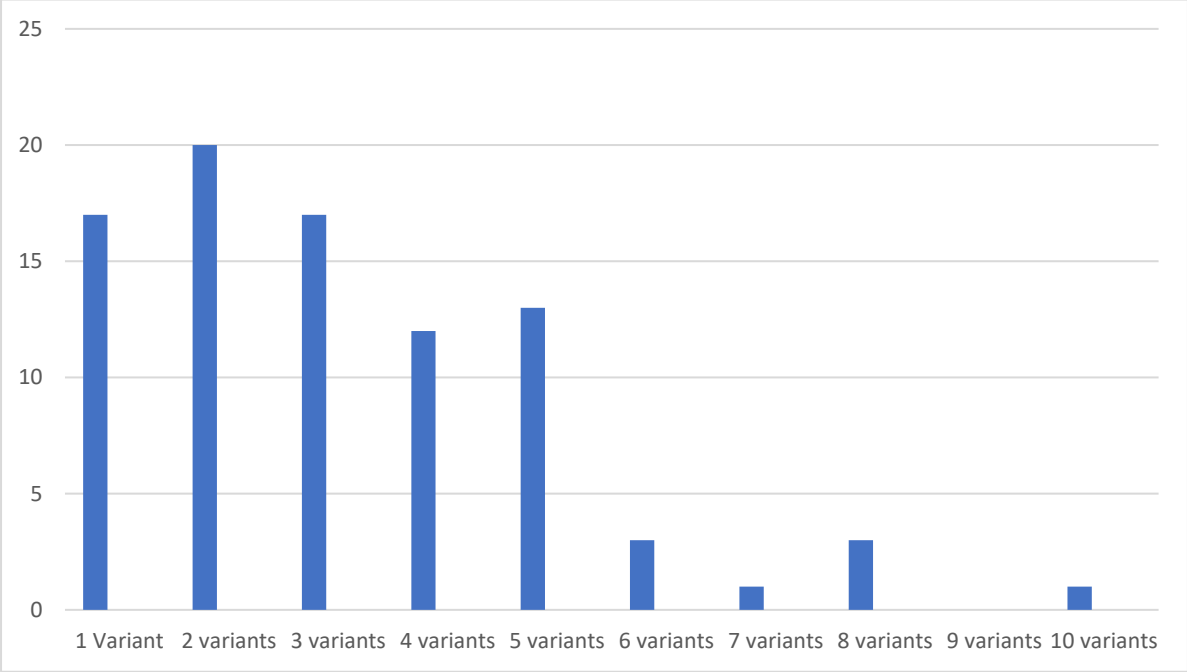

Figure 4.1 Variants and the number of terms

4.2.2 Features of signs

The analysis highlighted certain features with regard to how the terms were realised in BSL. A brief explanation of these categories is given here but I will expand on each of these with examples. It is not feasible within the parameters of the word count to provide an in-depth discussion of each of the 280 variants so I have chosen to focus on a selection. The variants for inclusion/reference in this chapter were selected on the basis that they served as particularly clear examples of signs belonging to the categories that I had identified. However, appendix four is an abridged typed copy of my notes and provides an overview of comments and observations for each of the 280. Additionally, the link provided on the contents page provides access to the video

data. Five phenomena were identified which allowed me to attribute categories to the signs.

1 Variants that were *visually informed* and demonstrated evidence of iconicity (including metaphorical iconicity). A number of these formed a sub-category of signs that might be considered *transparent**,*** the visually motivated alignment between the form and meaning that the sign might be understood by a non-signer.

2 Variants that were *arbitrary*. These articulations were realised in such a way that there was no discernible visually motivated form-meaning mapping. Even sign language users would not be able to discern the meaning and would not understand unless they were familiar with the conventionalised sign and its referent.

3 Variants that evidenced *semantic change**,*** and in this case broadening. These variants were established signs in BSL that have expanded beyond their meaning to be used in the context of metalanguage. Sometimes this expansion was perceived as effective by participants because it was felt that the sign was contextual, for example, using the established sign in BSL for DESCRIBE for ***adjective.*** Other expansions were not perceived as effective because they were not deemed contextual, for example, using the sign for CONCRETE (the composite material bonded with cement) to mean tangible (***concrete*** noun). Chapter five discusses signs in context in more detail.

4 Variants that evidenced a *borrowing* from English used the manual alphabet and what might be considered to be loan translations. Additionally, almost all variants evidenced a borrowing from English by incorporating mouthing (unvoiced spoken component), many of which corresponded to how the term is articulated in speech (although there were a minority of English mouthings that did not align to the term itself and is discussed later in this chapter).

5 Finally, there appeared to be another category which had initially been rather hard to define. I have chosen to call it *interpretation* for the reason that the participants provided an explanation of the term in the way that it was expressed.

Importantly, these were not always discreet categories and instead of being mutually exclusive they were quite often mutually overlapping. I cautiously propose that some variants that evidenced an expansion beyond their original meaning in BSL might also constitute a borrowing in that these signs are borrowing from the resources of BSL itself but applying the sign in another way such as the aforementioned use of the established sign in BSL for DESCRIBE and using it to refer to ***adjective***. There were other ways in which variants could potentially be attributed to more than one category and I give examples of these in section 4.2.10.

4.2.3 Visually motivated variants

Affix, is a good example of a sign that evidences iconicity. For all three variants for ***affix*** (all quite similar with some minor contrasts) the signer uses both articulators (hands) to produce what is the established sign in BSL for WORD, creating the idea

of two words or perhaps, parts of words. It is not just the handshape that evidences the visual motivation but additionally the movement parameter. For each variant, the movement parameter brings them together to create the idea of one word/part of a word being attached to another. For variant one, both articulators come together simultaneously. For variant two (figure 4.2), ***affix*** is produced with the signer holding one articulator in a central fixed position that represents the root word. The second articulator moves across both sides of the static hand visually conveying the idea of ***prefix*** and ***suffix*** respectively and therefore ***affix*** (modification to the root word on either side). [5] For variant three one articulator is static and the other moves from the right only.

Figure 4.2 ***Affix*** (V2)

C*ontraction* elicited five variants. Variant one is particularly notable. The signer produces the same handshape for the aforementioned ***affix*** (the established sign WORD). This handshape is produced by both articulators and they are brought inward

[5] The signs for ***prefix*** & ***suffix*** are executed in a similar way with the moving hand joining from the left side only to convey ***prefix. Suffix*** is executed in a similar way with the moving hand joining from the right side.

together simultaneously but with the addition of a second sign that can now be determined as the standard sign for ***apostrophe*** (all 31 participants were unanimous in how ***apostrophe*** was realised with no variation between them). It captured, in a very visual way, the idea of ***contraction*** as two words that come together with the inclusion of an apostrophe. While easier to see using the link to the videos to observe the crucial movement parameter, figure 4.3 shows the two articulators using the handshape for WORD being brought inward towards each other and then one of those articulators changing handshape to produce the apostrophe.

Figure 4.3 ***Contraction*** (V1)

Layout (of a text) is another example of a strong visually informed representation. What is particularly interesting about this term is that the analysis identified no fewer than eight different ways (only ***abstract***, for ***abstract noun*** elicited more variants) it was realised across the group of participants. These two variants (two and four) shown in figures 4.4 and 4.5 reveal a similar location and movement but have differing handshapes for the hand performing the movement parameter (one has splayed fingers and the other has the thumb and small finger extended).

Figure 4.4 ***Layout*** (V2)

Figure 4.5 ***Layout*** (V4)

Similarly, there is an orientation contrast in the passive hand that can be described as portrait/landscape. Here the signer is using the passive hand to represent a text and the movement parameter to express the idea of information being laid out. With variants three and five all parameters are contrasting. Variant three (figure 4.6) presents a C handshape (also used for the term ***paragraph)*** and the video shows that this is repeated in a downward movement expressing the idea of information being laid out on a page. Similarly, yet still differently, variant five (figure 4.7) shows the idea of images located on different parts of a page.

Figure 4.6 ***Layout*** (V3)

Figure 4.7 ***Layout*** (V5)

These examples, ***affix, layout*** and ***contraction***, evidence a close visually motivated form-meaning mapping. What is interesting is that the variants suggest different

individual schemas/conceptualisations resulting in different visual representations (particularly with ***paragraph***).

4.2.4 Variants that evidence transparency.

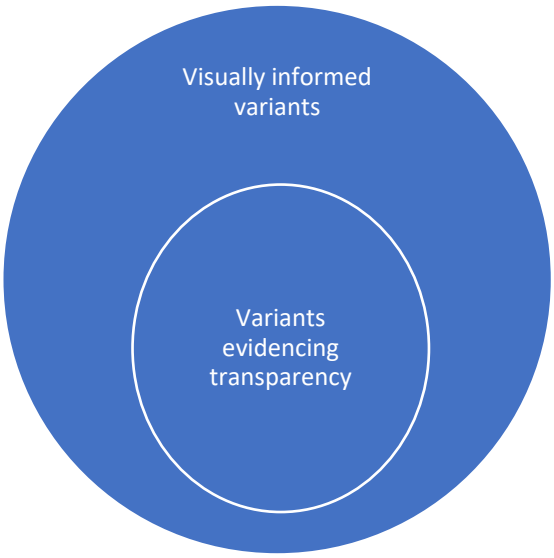

Figure 4.8 Transparent signs

Within the category of visually informed variants there was a sub-category of variants (as illustrated in figure 4.8) which were realised in such a way that might be considered transparent. For example, the sign for ***exclamation mark*** seems to evidence transparency (as demonstrated by the presenter in the video) where the mark is simply traced in neutral space: a vertical line with a dot underneath. The visually motivated form-meaning mapping is such that someone who is not a sign language user might guess the meaning (perhaps with the proviso that the perceiver has context and information about what is being discussed).

There were a few other terms which elicited signs that could be considered transparent. Unsurprisingly, *all* the terms (10 in total) that related to punctuation marks

(but not the term ***punctuation*** itself) were realised in this way: ***comma, apostrophe, speech marks, brackets, colon, semi-colon, full stop, hyphen, question mark*** and ***exclamation mark***. Other examples that were not punctuation marks were ***singular*** and ***plural***. Examples of some of these signs for punctuation marks are shown below. Figure 4.9 shows ***speech marks*** and is instantly recognisable through the iconic handshape. It is worth noting that it is homonymous (across the manual parameters, but not the mouthing) with variant one for grammatical ***subject*** and the established signs in BSL for TOPIC and THEME.

Figure 4.9 ***Speech marks*** (V1)

Figure 4.10 ***Colon*** (V1)

Figure 4.10 shows variant one for ***colon*** with the middle finger and forefinger representing the two dots. Figure 4.11 shows ***apostrophe*** with the index finger

creating the mark with a small movement to trace the outline of its shape as evidenced in the video. Note that the location parameter for ***apostrophe*** is higher up (above the letters) to contrast with **comma** which is lower down.

Figure 4.11 ***Apostrophe***

Of these 10 terms that related to punctuation marks, eight of these were executed in the same way across all participants. The other two, ***semi-colon*** and ***question mark,*** had very minor contrasts in the handshape. For example, with ***question mark*** some signers simply traced the outline of a question mark (variant one) while with the other (variant two), the handshape with the index finger and the thumb having contact can be observed, which is also used in the established signs in BSL for the noun QUESTION and the verb ASK as seen in figures 4.12 and 4.13. Interestingly, there appeared to be an approximately equal split between participants irrespective of being deaf or hearing or professional role in terms of how it was articulated.

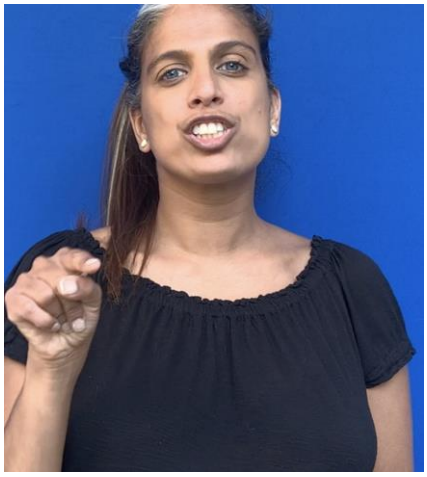

Figure 4.12 ***Question Mark*** (V1)

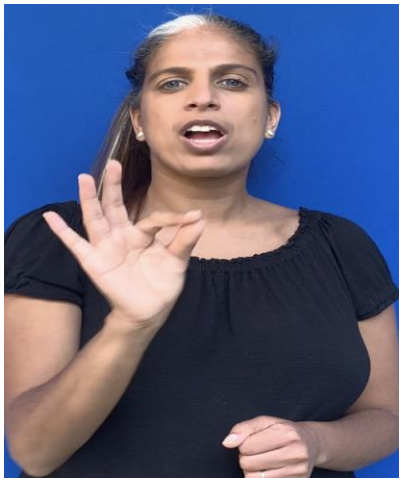

Figure 4.13 ***Question Mark*** (V2)

Variant two for ***singular*** could be considered transparent and yet this is a good example of how context can influence the transparency. It might be only considered transparent if the perceiver is given information. This is because the sign for ***singular*** as illustrated in figure 4.14 could be equally transparent for the signs to mean ONE, ALONE, SOLO, SINGLE, INDIVIDUAL, or INDEPENDENT. Meanwhile, with variant one for ***plural*** the presenter in figure 4.15 uses all the fingers and thumb demonstrating the idea of “more than one”. It may be that if these two signs are shown together rather than separately then the idea of ***singular*** and ***plural*** might be more apparent.

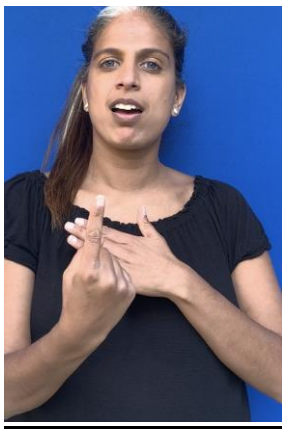

Figure 4.14 ***Singular*** (V2)

Figure 4.15 ***Plural*** (V1)

4.2.5 Metaphorical Iconicity

Alliteration elicited five variants. Apart from variant five, the others all hint at something similar. Variants one and two are almost identical save for the borrowing of the letter A in variant two but contrast with variants three and four (and they from each other) in all manual parameters (handshape, location, movement and orientation) rendering them completely different from one another. All retain the same mouthing where the signer clearly articulates the term ***alliteration***. Figures 4.16, 4.17 and 4.18 show the different handshapes, location and orientation.

Figure 4.16
Alliteration (V2)

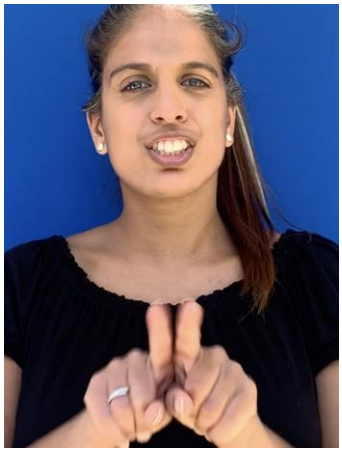

Figure 4.17
Alliteration (V3)

Figure 4.18
Alliteration (V4)

The interesting thing about these variants is the movement parameter which is best observed by watching the video recording. Although the plane and path of the movement also differs, there is a connection between them and that is the repetition of movement. Each variant incorporates this and the movement is articulated three times. This conveys, in a visual way, the idea that alliteration is about repetition. Valli (1990), a deaf poet and scholar proposes that alliteration exists in sign language poetry and storytelling and that the repeated handshape and/or movement creates visual resonance and can be considered equivalent to alliteration in spoken languages. For further discussion on alliteration in sign language poetry see Kaneko

(2011) and Sutton-Spence et al. (2005). It would be remiss of me not to mention the work of the late Dorothy Miles, a British deaf poet whose work evidenced this so eloquently, some of which can be found online. Her poem, *A Language for the Eye* can be seen by accessing this link https://www.youtube.com/watch?v=tgNAe8Rgli4 and her own translation in English is given in appendix six.

Metaphor was one of the few terms that does have an established and well-known sign in BSL and is used by many outside the context of teaching English to sign language users. Interestingly there did not appear to be a standard conventionalised sign for ***idiom***. The term ***metaphor*** did elicit more than one variant but most participants opted for this established sign (variant one). The handshape (illustrated below in figure 4.19) incorporates a change from open to closed and this is the same handshape combined with a movement that is used for the sign INFORM. This movement, best observed by watching the video, is in conjunction with the hands also moving into opposite positions and creates the concept of something being exchanged. It hints at the idea of one idea being substituted for another to inform.

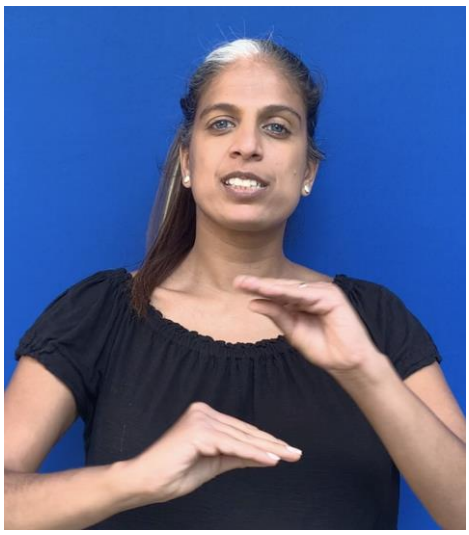

Figure 4.19 ***Metaphor*** (V1)

Finally, to come back to ***contraction,*** I mentioned the iconic representation evidenced by variant one that realised the term as two words coming together with the addition of an apostrophe. There were four other variants for this term, all very similar, but with slightly contrasting handshapes. All visually motivated, these variants also indicate a shortening or reduction, as can be seen in the movement parameter. The iconicity here however feels different from that of variant one (two words being merged with the inclusion of an apostrophe) and seems more metaphorical in nature. Figures 4.20 and 4.21 show the positioning of the sign for variants two and four respectively at the start of the sign and once the movement has been executed.

Figure 4.20 ***Contraction*** (V2)

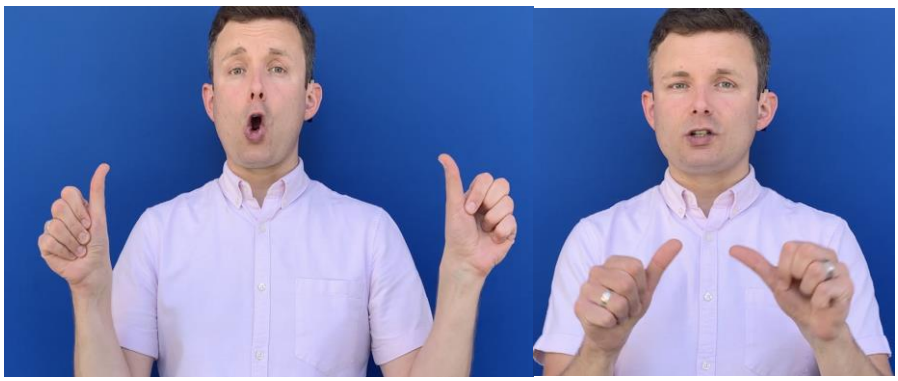

Figure 4.21 ***Contraction*** (V4)

Variant one for ***compound sentence*** also evidences metaphorical iconicity. ***Compound*** is produced in a visual way that conveys the idea of something being brought together. Figure 4.22 shows the handshape before the movement parameter is executed and after. It is possible to see that the fingers are splayed prior to the movement and after the movement parameter they are closed. Additionally, the hands are brought together simultaneously.

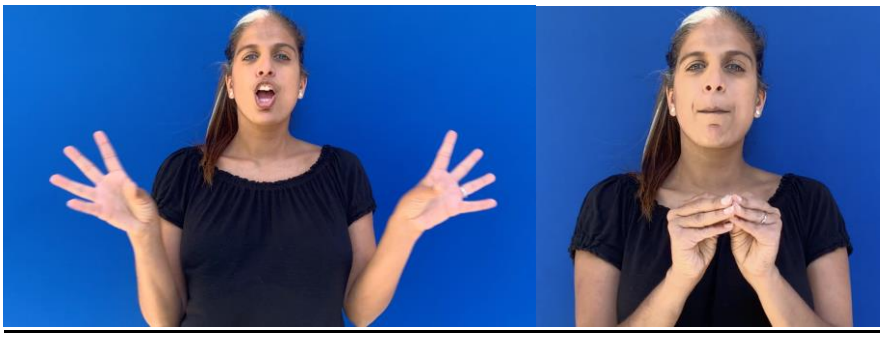

Figure 4.22 ***Compound*** (V1)

4.2.6 Variants evidencing arbitrariness.

If iconicity and transparency are partly dependent on the perceiver then it follows that this might also be true of arbitrariness. A sign might be considered completely arbitrary to one person but another may observe some visually motivated form-meaning mapping. There were relatively few variants that did not evidence some discernible iconic representation, so no visually motivated form-meaning mapping (including metaphorically). One of these was variant six for ***adjective*** as shown in figure 4.23

Figure 4.23 ***Adjective*** (V6)

The handshape is a C shape and produced in two locations starting with the index finger at the forehead and then moving down to the chin. There is nothing about the way that the sign is produced in terms of a visually motivated form-meaning mapping that conveys the idea of ***adjective,*** except the mouthing, and instead the mapping is only through convention***.*** To test this, I demonstrated the sign to other sign language users (deaf and hearing) who were not connected to the study and none were able to guess the meaning. It is very similar to the sign in BSL for PORTUGAL although unlike that sign variant six of ***adjective*** has no contact with the nose. However, there was some interesting detail attached to this sign. It was shared by three participants, two were deaf and interviewed in separate groups. The third was one of the sign language interpreters, interviewed in yet another group. All three lived in different geographical locations and all three participants shared this sign in addition to other signs that they shared for the same term. The puzzle was solved when after some investigating it transpired that the common denominator between the three participants was that they had at some time worked at the same secondary school for deaf children (at the time of the study only one participant was still there) and all three confirmed that this variant came from their time working at the school. Neither myself nor the participants who used the sign were able to determine the origin behind the sign.

Another possible example is variant two for ***preposition*** as shown in figure 4.24. Here the sign is executed by the index finger and thumb in contact and a movement parameter is observed but there is no visually motivated form-meaning mapping.

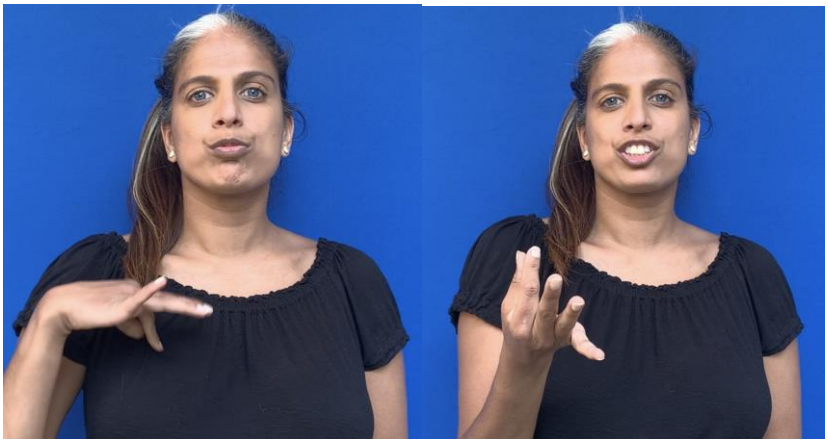

Figure 4.24 ***Preposition*** (V2)

Finally, variant one for ***stative*** (as in stative verb) also appears arbitrary. Here, as shown in figure 4.25, the hand remains in a static position in neutral space with the tips of the fingers facing outwards towards the beholder. The fingers are splayed and move slightly but and there appears to be no visually motivated form-meaning mapping.

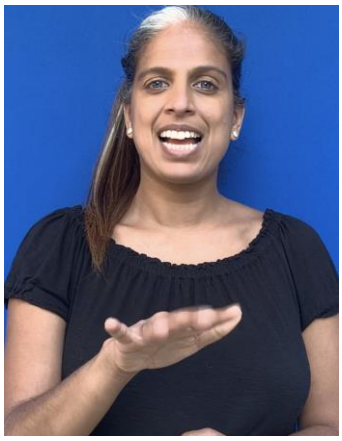

Figure 4.25 ***Stative*** (V1)

Or is there? If I were to show this sign to sign language users and ask them to guess the meaning, some might recognise it as the sign for THERE (although THERE also has a general locative element whereas this sign is positioned in neutral space). It is highly unlikely that someone could extrapolate the meaning as ***stative*** as in ***stative verb.*** However, the way the sign is produced indicates a stillness or lack of movement

in some way. Given that dynamic verbs have movement and stative verbs do not, might this mean something to the perceiver if they had context? Is there some evidence of metaphorical iconicity or semantic broadening here? There were only two variants for ***stative*** and these were produced by very few participants. The one discussed above was shared by one person. I contacted her some time later to discuss her rationale and she informed me that for her it meant “being” and that stative verbs were states of being.

4.2.7 Variants evidencing semantic change and polysemy.

There were some interesting examples of variants that evidenced semantic change. These were established signs in BSL expanding beyond their original meanings in order to be being used in the context of metalanguage. Figure 4.26 shows a presenter demonstrating the sign for DESCRIBE (taken from UCL’s BSL SignBank).

Figure 4.26 DESCRIBE (BSL SignBank)

If we compare this with variant one for ***adjective*** from this present study it is possible to see, illustrated in figure 4.27, that they share the same parameters (including the movement parameter which can be seen best in the video data).

Figure 4.27 ***Adjective*** (V1)

This sign DESCRIBE broadens to mean ***adjective*** and the rationale for it being realised in this way is rooted in the fact that adjectives belong to the word class that modifies nouns and are describing words. Therefore, the identical form is not coincidence like with homonyms and given that these two signs share the same form and have related meanings they can be considered polysemous. Along very similar lines, another example of semantic broadening is the use of the established sign in BSL NAME being used as a way to realise the term ***noun*** for the reason that nouns are the word class that gives names to things. Figure 4.28 shows NAME (BSL SignBank) and Figure 4.30 shows variant one for ***noun.***

Figure 4.28 NAME (BSL SignBank)

Figure 4.29 ***Noun*** (V1)

In the third example, in figure 4.30 (taken from UCL's BSL SignBank), the signer is demonstrating the sign for STANDARD. Meanwhile, figure 4.31 shows variant two from this study for the sign for ***regular*** (as in regular verb/plural).

Figure 4.30 STANDARD (BSL SignBank)

Figure 4.31 ***Regular*** (V2)

As with the pairings of DESCRIBE***/adjective***, the other two pairings of NAME/***noun*** and STANDARD/***regular*** evidence the same form in terms of how the sign is produced and are also therefore polysemous because of their related meanings. These three examples given above demonstrate semantic broadening in such a way that they could be perceived as contextual and meaningful. However, there were a handful of

examples from the data of semantic broadening where the target usage is perhaps less contextual and effective. This is open to debate and discussed by participants in chapter five. One example of this came from another variant for the term ***regular.*** Variant three realises this using an established sign REGULAR in BSL to mean "frequently" or "usually" as shown in figure 4.32 (BSL SignBank). Figure 4.33 shows variant three for ***regular*** from this study but used in the context of metalanguage to mean following a pattern or rule.

Figure 4.32 REGULARLY (BSL SignBank)

Figure 4.33 ***Regular*** (V3)

Other examples can be seen with the signs for ***perfect, interjection***, ***subject*** (grammatical subject) and ***concrete***. Below are images taken from UCL's BSL SignBank as per other meanings in BSL together with signs with the same form being used as signs for metalinguistic terms. Figure 4.34 shows the established sign in BSL for PERFECT as per its other meaning in English meaning "of excellent quality" or "flawless" and figure 4.35 shows variant five for the term ***perfect*** (as in perfect tense). Figure 4.36 shows the established sign for INTERRUPT/INTERJECT and figure 4.37 shows variant two for ***interjection***. Figure 4.38 shows the sign for SUBJECT (meaning "topic" or "theme") while figure 4.39 shows variant one for grammatical ***subject.*** Finally, ***concrete*** (***noun***) was expressed using an established sign for

CONCRETE as illustrated in figure 4.40 (taken from www.signbsl.com because it was not found in UCL's BSL SignBank). However, the sign refers to the composite material bonded together by cement and not for the meaning of ***concrete*** in the context of something being tangible or clear. Figure 4.41 shows variant two for ***concrete noun*** from the data. For the latter, there is a contrast in the orientation parameter of the passive base hand in the examples given but I would argue that this is allophonic and does not cause a change in meaning.

Figure 4.34 PERFECT (BSL SignBank)

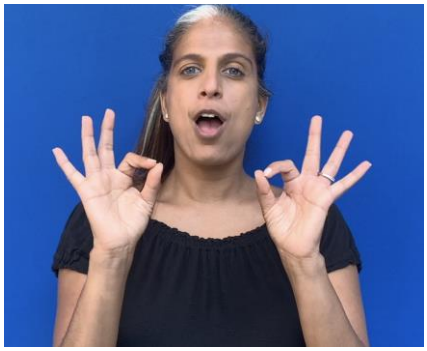

Figure 4.35 ***Perfect*** (V5)

Figure 4.36 INTERJECT(BSL SignBank)

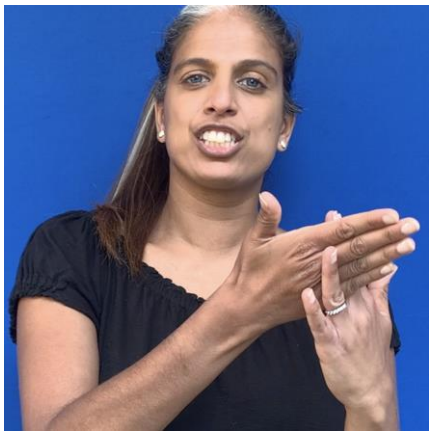

Figure 4.37 ***Interjection*** (V2)

Figure 4.38 SUBJECT (BSL SignBank)

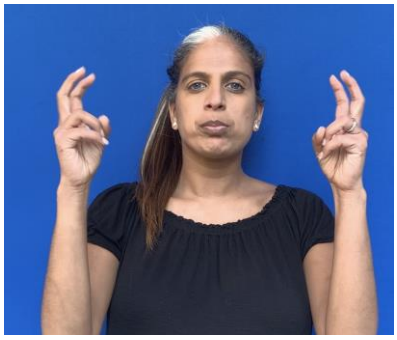

Figure 4.39 ***Grammatical Subject*** (V1)

Figure 4.40 CONCRETE (cement)
https://www.signbsl.com/sign/cement

Figure 4.41 ***Concrete*** (Tangible V2)

With the five examples of the pairings of signs that expand beyond their usual meanings described above, if the expansion renders them “out of context” does it therefore follow that they not polysemous and are therefore just homonyms? The two signs are a product of the relationship between the English word “concrete” meaning tangible and the composite material bonded by cement, but is it effective or contextual to use the sign for CONCRETE (the composite material) to mean “tangible”? These are salient questions and again open to debate.

4.2.8 Borrowing

There were three main ways in which borrowing from English was evidenced. One was the use of the manual alphabet to refer to English letters, another was what can be described as loan translations and the other was mouthing, although the latter warrants a section of its own (see section on non-manual features). Some variants that evidenced borrowing simultaneously evidenced a visually motivated representation and semantic change and these will be explored in the section that discusses overlapping features/categories. Here I will give some notable examples that evidence borrowing from the manual alphabet only (because the vast majority of variants also incorporated English mouthing).

Adverb variant five spells the letters A-D-V while variant 6 spells the letters A-D-V-B.

Adjective variant five spells the letters A-D-J.

Article variant three uses the letter A

Consonant variant one uses the letter C

Noun variant three spells the letter N

Object variant two spells the letters O-B-J

Pronoun variant three spells the letters P-N

Plural variant six spells the letters P-L.

Subject **(**syntactic**)** variant three spells the letters S-B-J

Vowel *(*variant one) spells A-E-I-O-U, note that the manual borrowing from English refers to the actual vowels and not the term itself although the mouthing was clearly VOWEL. Figures 4.42, 4.43 and 4.44 show ***adverb*** (A-D-V), ***noun*** (N) and ***plural*** (P-L)

Figure 4.42 ***Adverb*** (A-D-V) V5

Figure 4.43 ***Noun*** (N) V3

Figure 4.44 ***Plural*** (P-L) V6

Other borrowings using the manual alphabet were rooted in the meaning and target language of English rather than the term itself, for example variant eight for ***adverb*** which incorporated the sign ***verb*** and the spelling L-Y, variant one for ***article*** which was realised with the spellings A/A-N/T-H-E, variant two of ***comparative adjective*** which was realised as MORE + E-R, and variant three for ***continuous*** expressed as I-N-G.

There was evidence of what could be considered loan translations. One such example is worth mentioning. ***Complex sentence*** (variant one) was realised as a literal translation using the signs COMPLEX and SENTENCE. Figure 4.45 shows COMPLEX taken from UCL's BSL SignBank (the presenter in this image is the same presenter for my study) while 4.46 shows ***complex sentence*** which was realised as two single signs COMPLEX and SENTENCE. It is perhaps similar to Cameron, Quinn and O'Neill's (2021) example of BLACK (the colour) and HOLE being used to convey "black hole" and this not being contextual in BSL.

Figure 4.45 COMPLEX (BSL SignBank)

Figure 4.46 ***Complex sentence (V1)***

Another example of a loan translation was observed in variants one and two for ***first person, second person, third person.*** There was a minor contrast in the way these two variants were produced and both used the established number signs for ONE, TWO and THREE, (also evidencing transparency) together with the established sign for PERSON. Variant one firstly lists the numbers ONE, TWO and THREE and then adds PERSON, while variant two executes sign for ONE and then PERSON, and then moves on to sign TWO and PERSON and finally THREE and PERSON. Neither of these variants seem to capture the *idea* behind the term. Variant three did however and is discussed later in the section that explores the variants that evidence multiple features (overlapping categories).

I have previously discussed how some variants evidenced a borrowing from the resources of BSL involving semantic change (broadening) where established signs in BSL were used in such a way that they expanded beyond their usual meaning to be used in the context of metalanguage. Sometimes, this process resulted in signs that might be perceived as effective as evidenced with some of the aforementioned examples such as DESCRIBE being used for ***adjective*** or NAME being used for

noun. Other times it did not, for example, REGULARLY being used for ***regular,*** CONCRETE, the composite material for cement used to refer to ***concrete*** meaning tangible/clear. These signs might be perceived as incongruent and confusing.

However, intralingual borrowings (from the resources of BSL) might not necessarily constitute semantic change, which is why I feel it is helpful to talk about these here. Examples of these were the established signs in BSL for HELP being used for ***helping*** verb, CONTINUE being used for ***continuous*** in the context of the tenses, DEFINITE for ***definite*** article, CONNECT being used for ***connective*** and PAST, PRESENT and FUTURE to refer to ***past, present*** and ***future*** (tenses). Figures 4.47, 4.48, 4.49 and 4.50 show ***helping*** (V1), ***continuous*** (V1), ***definite*** (V1), and ***connective*** (V1) respectively.

Figure 4.47 HELP/***Helping (V1)***

Figure 4.48 CONTINUE/***Continuous (V1)***

Figure 4.49 DEFINITE***/Definite (V1)***

Figure 4.50 CONNECT***/Connective (V1)***

4.2.9 Signs that evidence translation

This category was initially difficult to define. I have chosen to call it “translation” because it seems that there is an explanation of the meaning of the term built into the way it is represented. Unlike the loan translation example of COMPLEX and SENTENCE, that is perhaps not contextual in BSL, these variants attempted to convey the meaning in their articulations. Variant one for ***Antonym*** was realised simply as OPPOSITE while variant two builds on this by using two established signs from the resources of BSL. The first is OPPOSITE (as per variant one) and the second sign is MEANING. Figures 4.51 and 4.52 show the signs for these two terms taken from UCL’s BSL SignBank.

Figure 4.51 OPPOSITE (BSL SignBank)

Figure 4.52 MEANING (BSL SignBank)

Figures 4.53 shows the two single signs (but not a compound sign) being used together to realise the term ***antonym*** (V2)***.*** However, there was a single mouthing and it was aligned to the term. ***Synonym*** **(V1)** was similarly realised as SAME + MEANING.

Figure 4.53 **Antonym** (V2)

Variant four for ***Idiom*** follows a similar process to ***antonym*** and ***synonym***. It was realised using two distinct signs (figure 4.55). The first one was an established sign in BSL for HIDDEN (as illustrated in image 4.54 taken from UCL's BSL SignBank) and the other was once again MEANING.

Figure 4.54 HIDDEN (BSL SignBank)

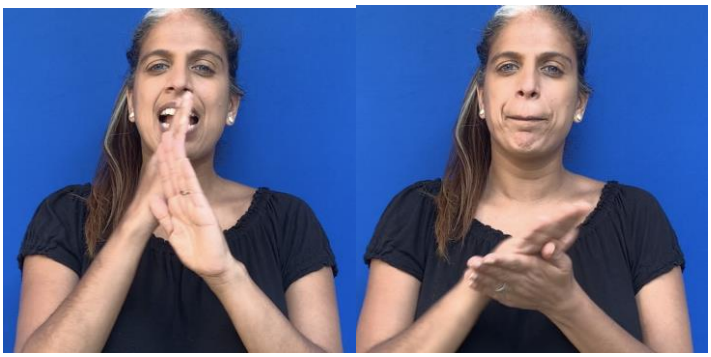

Figure 4.55 ***Idiom*** (V4)

It feels that with these variants they are almost like an answer to a question. What is an antonym? What is an idiom? And the way that the term is realised answers the question to a certain degree. Another example is variant one for ***demonstrative***.

There were four variants for this term. Variants two, three and four for ***demonstrative*** expressed the term using signs that are variations of the sign SHOW in BSL illustrated in figure 4.56 For each of these the mouthing was aligned to the term.

Figure 4.56 **Demonstrative** (V2, V3 & V4)

Variant one, on the other hand, evidenced four distinct signs to express it. Here the signer signs THIS/THAT/THESE/THOSE, articulated by pointing (indexing) as illustrated in images 4.57 and 4.58 (showing THIS and THAT respectively).

Figure 4.57 THIS

Figure 4.58 THAT

Note that in image 4.57 the index finger is orientated closer to the signer to denote THIS while for THAT the signer orientates the index finger further away from him as seen in figure 4.58. THESE and THOSE (best seen in the video data to capture the movement) are similarly produced but the index finger moves slightly to indicate that there is more than one thing close to him and in turn does the same to indicate that there is more than one thing further away. Of course, this is most certainly also a very visually motivated realisation and possibly transparent too but additionally the

interpretation is clear. The participants who shared this way of realising ***demonstrative*** are thinking more about what the term means in the target language of English.

In contrast to earlier examples of ***regular*** being expressed using the established sign STANDARD (more contextual) and REGULARLY (so not contextual) there was also another variant for this term. Here variant one for ***regular*** is realised using two single signs that can be interpreted as FOLLOW and RULE as illustrated in figure 4.59. Although two single signs, the mouthing is aligned to the single term ***regular.*** This particular variant is my way of expressing the term in my classroom and so it was interesting to see this included in the data.

Figure 4.59 **Regular** (V1) (FOLLOW + RULE**)**

Variant three for ***tense*** comprised of four distinct signs, one of only four items from the word list to do so. These four signs were TIME + PAST + PRESENT + FUTURE as seen in figures 4.60, 4.61, 4.62 and 4.63.

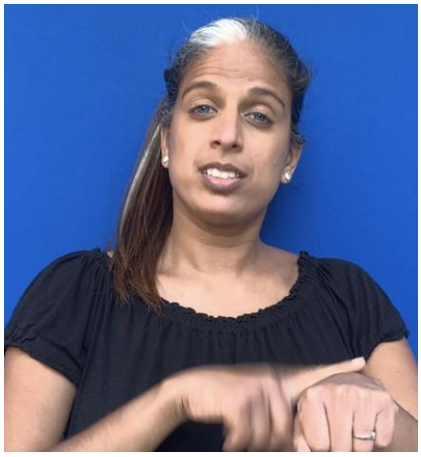

Figure 4.60 TIME

Figure 4.61 PAST

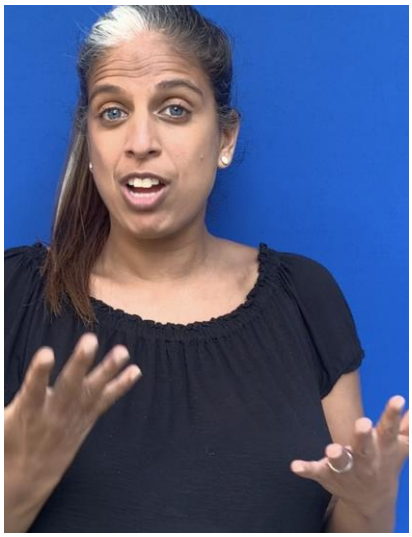

Figure 4.62 PRESENT

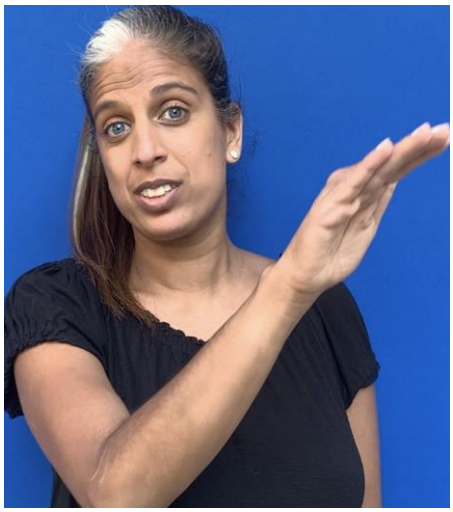

Figure 4.63 FUTURE

They are all executed consecutively to create the idea of ***tense*** as illustrated in figure 4.64.

*Figure 4.64 Expressing **tense***

4.2.10 Variants evidencing multiple features/overlapping categories.

I have provided examples of signs that evidence a visually motivated representation (including signs that might be considered transparent or iconic in a metaphorical way), signs that are arbitrary, signs that demonstrate borrowing (from English, by way of fingerspelling and loan translations and mouthing and also from the resources of BSL), signs that evidence semantic change (broadening) and also those which convey an interpretation. However, there were quite a number of variants that seemed to evidence more than one of these features and might be iconic in some way but also incorporate a borrowing, or provide an interpretation but evidence semantic broadening. This section provides examples of these variants that point towards the fact that these features are not exclusive but often mutually overlapping.

An innovative sign that was popular among participants was variant one for ***concrete*** (noun). Here the signer simply uses the sign SEE (figure 4.65). This is perhaps both visual but provides some kind of interpretation because concrete nouns refer to things that we can see or touch. Additionally, this evidences semantic broadening because the sign itself is expanding beyond its usual meaning of SEE to mean ***concrete*** (in the sense of something being tangible)

Figure 4.65 ***Concrete*** (V1)

Another example of a variant that was both visual but seems to convey an interpretation of the meaning of the term can be seen in variant two for ***tense***. This sign begins its movement at the signer's shoulder to indicate the past. The past is conceptualised in some sign languages (including BSL) as being behind but for anatomical reasons the hand cannot reach further beyond the shoulder as illustrated in figure 4.66. The static (passive) hand is located in what can be considered the present and close to the signer's body. The dominant hand moves from the shoulder past the static hand that represents the present and moves in front of the body which is considered to be the future as seen in figure 4.67. This movement of the dominant hand is a quick continuous movement using the timeline in BSL that is used to denote past, present and future to convey ***tense.*** It is perhaps less convoluted that the aforementioned variant three for ***tense***, that incorporates four signs. This provides an interpretation but also in a very visually motivated way.

Figure 4.66 ***Tense*** V2 (starting position)

Figure 4.67 ***Tense*** V2 (end of movement)

Variants one and two for ***pronoun*** were both realised using two single signs (see video data for clarity on how these were realised). The second sign in both variants is identical to variant one for ***noun*** (expanding from the established sign for NAME). The first sign in variant one is REPLACE and for variant two it is SWAP. The overall movement for each variant was the same (although the plane and path were different) but the handshapes contrasted. These variants that express the meaning are visually

motivated while simultaneously evidencing broadening in that the signs REPLACE and SWAP in BSL are expanding beyond their usual meaning to be used, in part, for ***pronoun.*** Figure 4.68 shows variant two for pronoun with the two images showing the starting and ending position for SWAP.

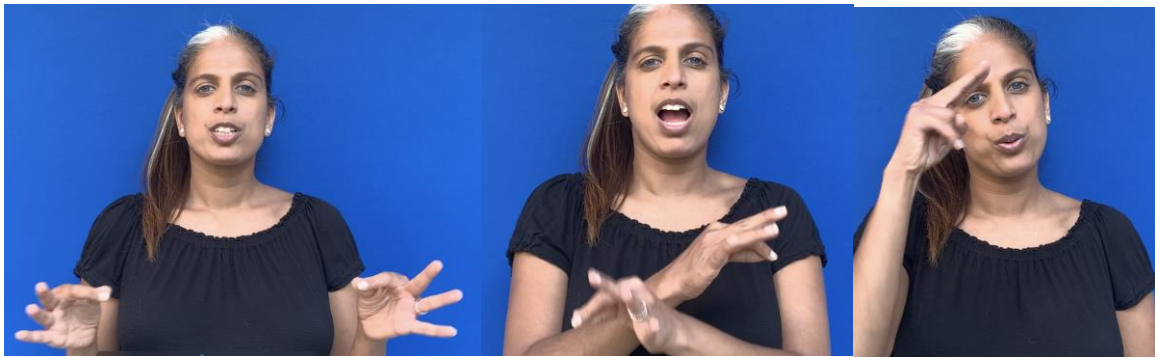

Figure 4.68 SWAP / ***pronoun*** (V2)

Variant two for ***adjective*** is produced similarly to variant one in that it that it uses the established sign in BSL for DESCRIBE***.*** I have already discussed this constitutes semantic broadening but it also has a rather visual quality (metaphorically perhaps) and conveys a “telling” or “describing” that is identifiable to users of BSL but possibly non-signers also. With this variant, (variant two) there is also the added letter A executed before the sign. Therefore, this evidences a borrowing from English in addition to the semantic expansion and the visually informed representation as illustrated in figure 4.69.

Figure 4.69 ***Adjective*** (V2)

Vowel and ***consonant*** are other interesting examples. All 31 participants produced ***vowel*** (V1) in the same way and this term can be said to be standard. In the manual alphabet, A, E, I, O and U are spelt out on the hand with the index finger of the dominant hand touching the thumb and fingers of the non-dominant hand as illustrated in figure 4.70.

Figure 4.70 A,E,I,O,U

The sign for ***vowel*** (V1) was executed by using the index finger of the dominant hand to touch the thumb and fingers of the other hand quickly. Although this evidences borrowing from English (reference to the letters) it was simultaneously evidence of interpretation because the manner with which it was executed. I would suggest that it is not a lexicalised sign because the letters referred to would need to be V-O-W-E-L. Instead, the manual target (A-E-I-O-U) is not the term itself (although the mouthing VOWEL is) but the five English letters that are used for representing vowels in written English. Figure 4.71 illustrates the blend of features.

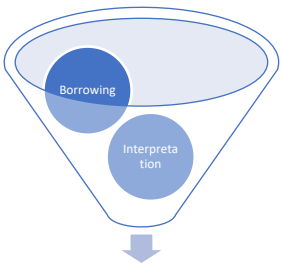

Figure 4.71 Vowel (overlapping categories)

Unlike ***vowel***, ***consonant*** elicited three variants. Variant one uses the initial C to represent ***consonant***. Participants knew it would be tricky to use a similar strategy for ***vowel*** and spell all the consonants as a single sign so easily although variant two starts this by using B-C-D. The most popular strategy (variant three) was to execute the same sign for vowel but with the simultaneous non-manual feature of negation followed by a second sign OTHERS (referring to the "other letters that are not vowels"). This is best seen accessing the video data but figure 4.72 shows a screenshot of the video data where it is possible to see the negation together with a visual illustration of how this was executed.

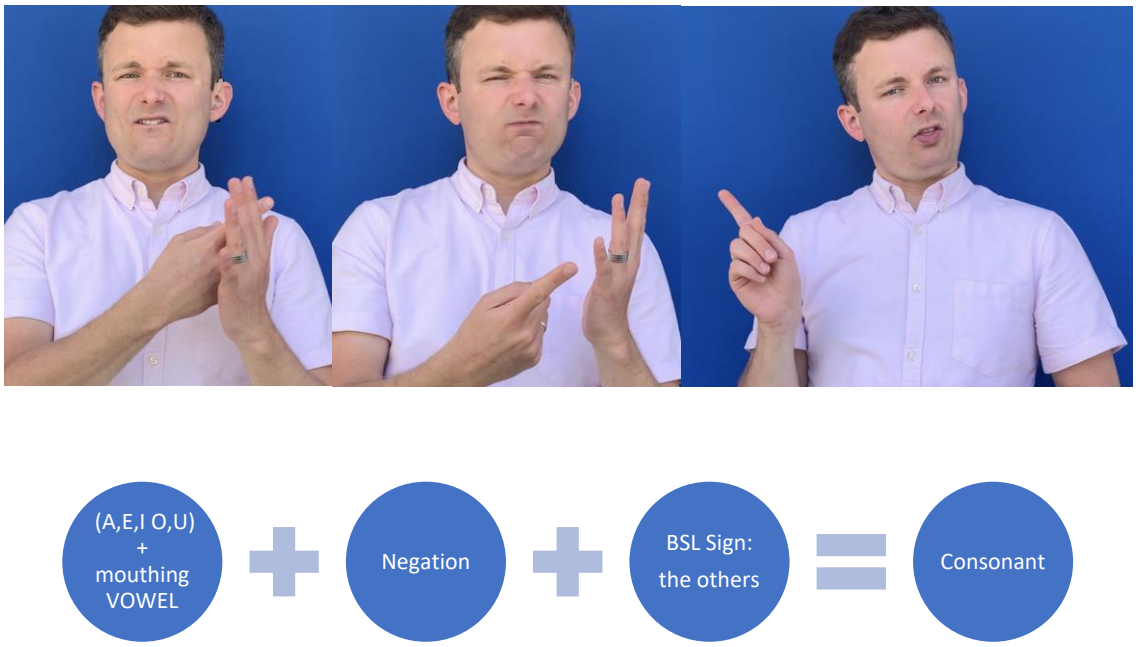

Figure 4.72 ***Consonant*** (V3)

To summarise, ***consonant*** builds on the strategy used for ***vowel*** which evidences a borrowing from English together with an interpretation to create a sign for this term. It incorporates the feature of negation (this evidences the important fifth parameter of

non-manual features) and adds further interpretation by bringing in this additional sign OTHERS.

In the section about borrowing, I discussed how variant eight for ***adverb*** combines one of the variants for ***verb*** with the addition of L-Y. The motivation for this borrowing stems from adverbs often being formed by modifying adjectives by adding L-Y. Meanwhile variant three for ***continuous*** spells I-N-G using the manual alphabet to refer to present participle used in the continuous form of verbs in the English tenses. Both of these borrowings evidence an interpretation, and the participants are thinking, not about the term, but about what the term means in the target language of English. Other noteworthy examples are variant one for ***article*** (A/A-N/T-H-E) and variant two of comparative adjective (MORE & E-R) and variant one for ***adverb of manner*** (A-D-V + HOW).

The term ***plural*** elicited a number of variants, two of which combine borrowing with other features. Figure 4.73 illustrates variant two. On the left the signer is using the visually informed representation of plural, using the established sign for MANY and constitutes semantic broadening. In addition to this the signer spells the letter S to convey that most nouns are formed by adding S to the singular form.

Figure 4.73 ***Plural*** (V2)

Meanwhile variant three evidences an interpretation together with the borrowing as illustrated in figure 4.74. This is the established sign in BSL for the verb ADD. By producing this sign combined with the letter S the is conveying ADD + S = ***plural.***

Figure 4.74 ADD + S = ***plural*** (V3)

In the section on borrowing, I discussed how variants one and two for ***first person, second person, third person*** evidenced a loan translation by simply using the signs ONE, TWO and THREE + PERSON. Variant three added another crucial feature that was visually motivated while simultaneously evidencing some degree of interpretation as schematised in figure 4.75.

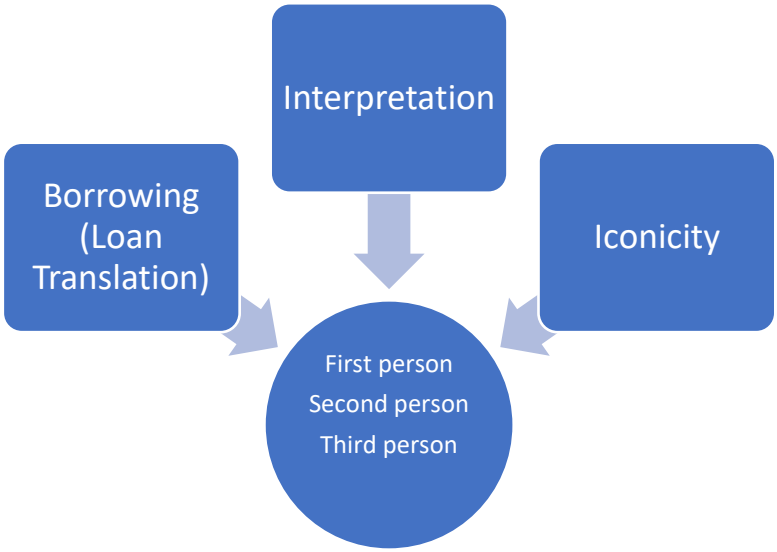

Figure 4.75 ***First person/second person/third person*** (V3)

This variant (V3) evidenced interpretation and iconicity with effective use of the location parameter. For ordinal numbers there is a twist or rotation to the fingers to express FIRST/SECOND/THIRD in BSL. The numeral ONE (with rotation to make the number ordinal) is oriented close to the signer to indicate that from his perspective he is the first person/I. TWO is orientated away from the signer in the direction of the perceiver to indicate that the perceiver is the second person and from his perspective YOU. Finally, the sign for the number THREE is orientated away from the signer but also away from the perceiver to indicate that this is neither himself or the perceiver but a third person. Due to the changes in the movement parameter and the location, this variant is best observed from the video data but it still possible to see from figures 4.76, 4.77, 4.78 that first person is close to the signer, second person is oriented towards the perceiver (with an intense eye gaze) and with third person there is a shift away from himself and the perceiver.

Figure 4.76 (V1)***1st person*** Figure 4.77 ***2nd person*** Figure 4.78 ***3rd person***

The final example of a variant evidencing multiple features is the way that ***proper noun*** and ***common noun*** were realised which came from the same participant. ***Proper*** (V1) was realised using the C handshape to denote the idea of uppercase (but possibly C for CAPITAL). Meanwhile ***common*** (V5) was realised by indicating a

lowercase letter. Figures 4.79 and 4.80 show the handshape. There is some evidence of metaphorical iconicity, perhaps some evidence of borrowing and of interpretation. The participant who shared this explained that while teaching the meaning of the term would involve more explanation and examples of proper nouns and capital letters, this would be a simple way to refer to ***proper noun*** or ***common noun*** once the concept had been explained.

Figure 4.79 ***Proper*** (V1)

Figure 4.80 ***Common*** (V5)

4.2.11 Numbers of signs in variants

The majority of manual signs identified in variants were single signs, and a smaller number were identified as comprising of two distinct signs. Finally, a small minority of variants incorporated three and four signs. A very small number of signs constituted compound signs and were classified as single signs (two morphemes). The percentages are illustrated in figure 4.81.

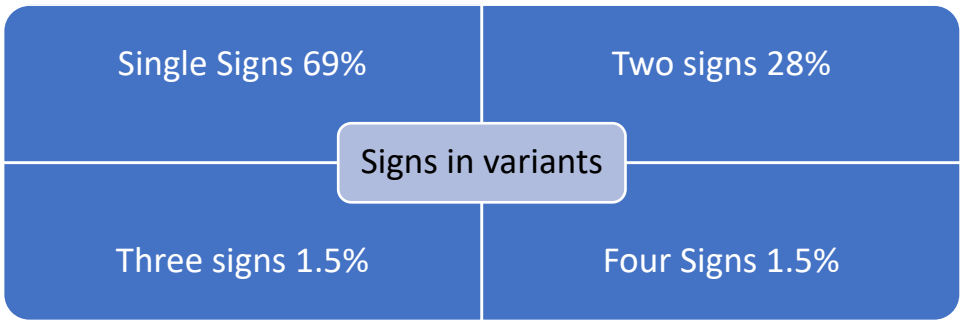

Figure 4.81 Percentage of signs identified in variants

Meanwhile figure 4.82 shows the actual numbers of signs identified for variants.

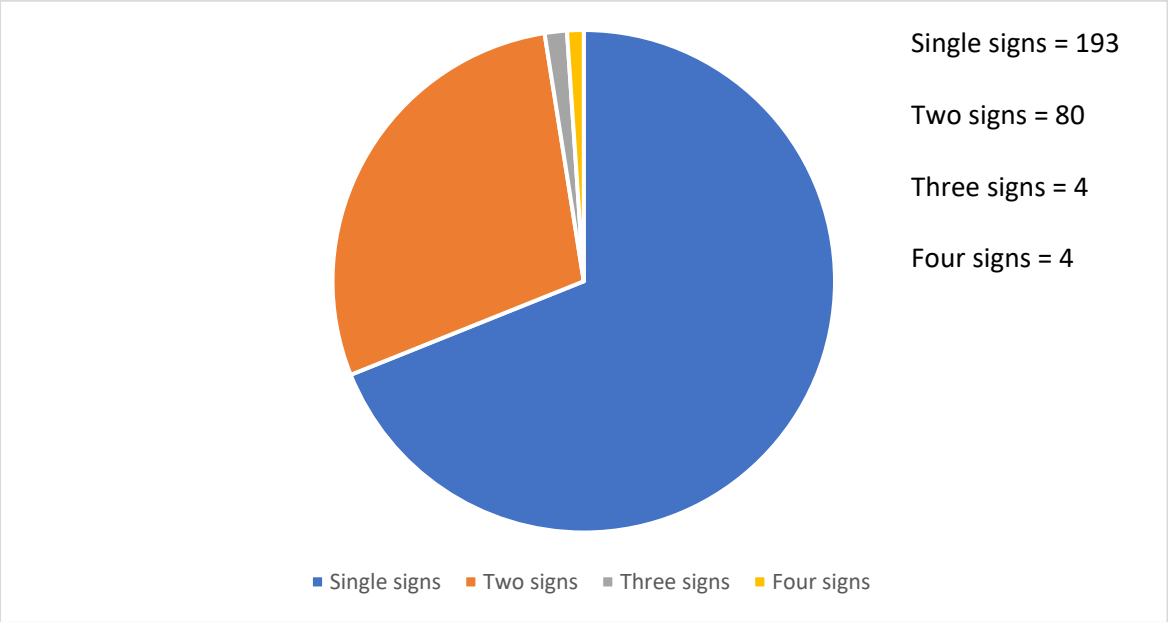

Figure 4.82 Number of signs identified in variants

As discussed in the literature review, compounds take less time to articulate than two separate signs (Sutton Spence and Woll, 1999) and can be articulated in the same time as a non-compound sign. One example from the data is the sign for ***collocation***. There were two variants for this term. Variant one is a compound sign while variant two is not. Variant two, executes ***collocation*** as two distinct signs WORD (the same handshape we have seen with ***affix*** and ***contraction***) and MATCH. Variant one on the other hand, is most definitely a compound sign. Here, the handshape for both articulators begins with WORD and then the hands are brought close together but the handshape quickly shifts during the movement to produce the sign CONNECTION. ***Collocation*** is therefore conveyed as WORD + CONNECTION but is executed in such a way that these two morphemes blend seamlessly together to create the compound. Figure 4.83 shows the handshape change during the movement parameter.

Figure 4.83 ***Collocation*** (V1)

4.2.12 Negation and facial expression

It is crucial to discuss the other non-manual features identified when the terms were articulated such as negation, mouthing and facial expression. With regard to the latter, as this was a lexical study exploring a specific semantic field, the majority of these terms were realised with a fairly neutral facial expression. It is the use of negation (headshake or facial expression) that changes the meaning from positive to negative. While the manual sign remains the same, it is the use of negation that modifies the meaning. This was observed for the terms ***indefinite article*** (variant one) and ***irregular*** (variant two). These signs were produced in the same way as per the manual parameters for ***definite article*** (V1) and ***regular*** (V1). Figure 4.84 shows the contrast in facial expression between ***definite*** and ***indefinite*** (with the head movement best observed in the video data).

Figure 4.84 ***Definite*** (V1) *and* ***indefinite*** (V1) *non-manual features*

Another example was evident in the previously discussed variant three for ***consonant*** where I explained the use of negation. The manual sign is the indexing of the letters A-E-I-O-U to indicate the term ***vowel*** (as previously stated the English manual borrowing was A-E-I-O-U while the borrowing via mouthing was aligned to the term ***vowel).*** With this manual element we have a strong headshake combined with facial expression that indicates that the signer is explaining “not the vowels” as illustrated in figure 4.85.

Figure 4.85 NOT THE VOWELS (V3)

Besides negation there was occasional evidence of other non-manual features such as that observed with a couple of variants for ***abstract*** (noun). The majority of variants for this term elicited a fairly neutral expression but variant six illustrates a stronger expression. The manual element in this instance uses a sign for OBSCURE. The facial expression illustrates this in figure 4.86. Meanwhile figure 4.87 shows the facial expression overserved in variant three for ***adverb of degree***, the only variant not to evidence an English mouthing. Here, the strong facial expression aligns to the manual sign STRENGTH.

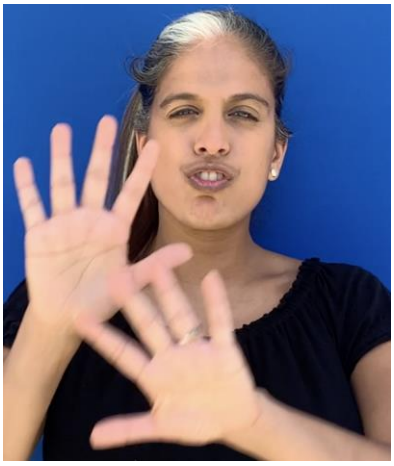

Figure 4.86 ***Abstract*** *(V6)*

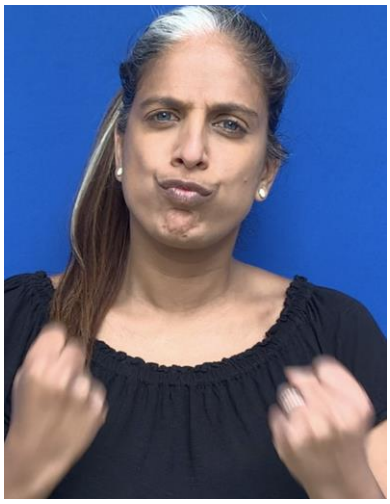

Figure 4.87 ***Adverb of Degree*** *(V3)*

4.2.13 Mouthing

Borrowing from English was evidenced not only by use of the manual-alphabet and loan translations but additionally by the use of English mouthing (unvoiced spoken components). Data from this study evidenced a high degree of mouthing corresponding to English words (or occasionally parts of an English word). I must report that not all participants were consistent in providing English mouthings for all the items they shared but the vast majority did. In fact, all but one of the variants (the aforementioned variant three for ***adverb of degree***) were articulated with English

mouthing by the majority of participants. When mouthing was evident there was a propensity for it to correspond to the term itself. However, there were exceptions where the English mouthing did not correspond with the term. Figure 4.88 illustrates the division between those mouthings which corresponded to the term and those that did not. Additionally, appendix seven gives a list of terms where mouthing did not align to the term.

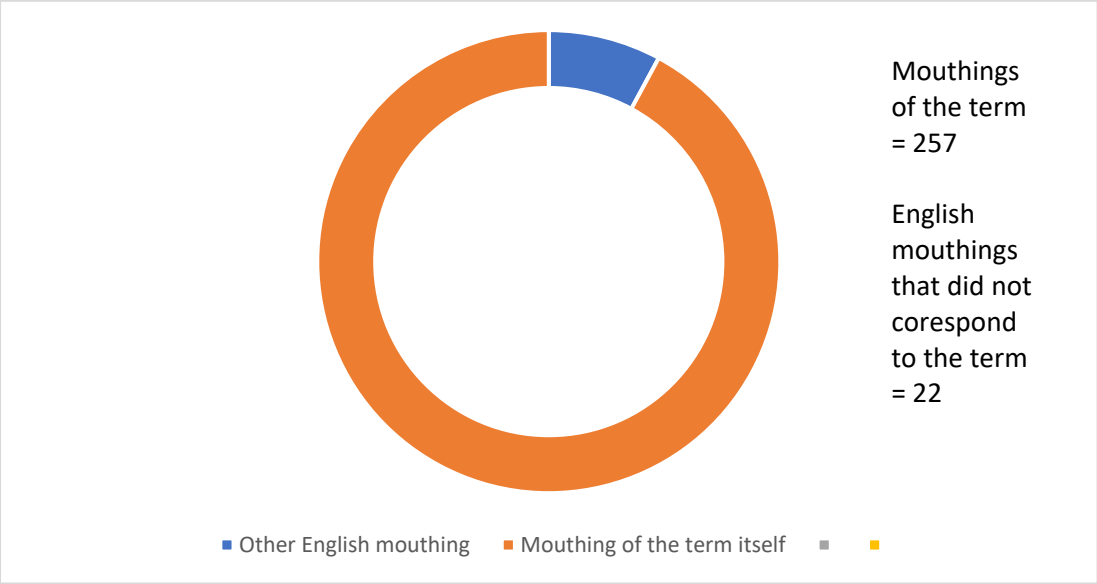

Figure 4.88 English mouthing

At first it appeared that when the English mouthing did not align to the term it was due to manual borrowings of English (fingerspelling). For example, variant two for ***comparative adjective*** demonstrates the manual borrowing E-R and the mouthing aligns to the manual borrowing and not the term. The same can be seen in variant one for ***article*** where the mouthing and the manual borrowing are the same: A/A-N/T-H-E. Meanwhile for variant three of ***continuous*** the mouthing is the letters I-N-G rather than the term and the same can be observed for variant eight of ***adverb*** with the mouthing L-Y. Figure 4.89 illustrates a further example with variant three for ***simile***

and how the mouthing aligns to the manual borrowing (LIKE meaning ALIKE/SAME) rather than the term itself.

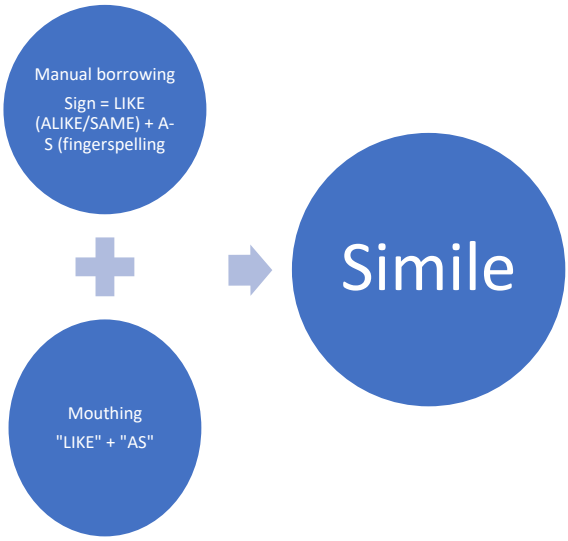

*Figure 4.89 Mouthing **simile*** (V3)

However, sometimes when the mouthing does not align to the term it is not only due to manual borrowings (fingerspelling). Variant four for ***preposition*** is realised with four signs: P (for preposition) WHERE + OVER + UNDER and the mouthing aligns to the signs. Additionally, there is the previously discussed variant three for ***tense*** that evidenced an interpretation using the established signs TIME + PAST + PRESENT + FUTURE and the mouthing also aligns to the signs rather than the term ***tense***. This makes sense because it is difficult for the mouthing of a term that is one word to align to a variant that comprises of three or four signs. This was also the case for variant one for ***demonstrative*** where the mouthing was aligned to the indexing of THIS/THAT/THESE/THOSE. For variants that comprise of two signs, such as those seen with ***antonym*** (V2), ***synonym*** (V1) and ***idiom*** (V3) it was easier for the mouthing to align to the term.

However, there were a small number of cases where the mouthing did not correspond with the manual borrowing from English. One such example was the previously discussed ***vowel.*** Another example can be seen with variant four for ***conditional*** as illustrated in figure 4.90. Here the mouthing relates to the term itself but the manual borrowing reflects the target language of English by spelling the word I-F to reflect that the conditional clauses contain this word.

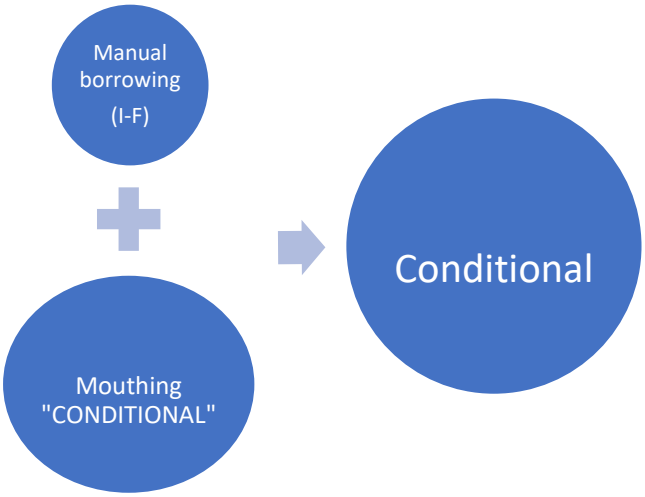

Figure 4.90 Mouthing ***conditional*** (V4)

The high prevalence of English mouthing evidenced in the data is interesting and is discussed by the participants in chapter five. This chapter has many examples of the rich and varied data that was elicited from participants in phase one of the study. The shorter second phase of this investigation involved sharing the data with the participants and inviting them to share some of their reflections and observations on their collective contributions. The following chapter reports on some of the key participant reflections.

Chapter 5: Participant reflections

5.1 Overview

The reflections elicited from the participants in the second phase of the study fell into two main categories: those that referred to the elicited signs in the first phase of the study and those that referred to the study as a whole. These were further sub-divided into a number of themes. With regard to the former, participants made some observations that were quite general, indicated preferences about some of the variants, commented on the importance of context, the use of initialisation, iconicity, variation and standardisation, and mouthing. When reflecting on the study, participants commented on their feelings about the project, how it has had an impact on their practice, and finally their thoughts and suggestions as to next steps and future research. This chapter reports on the key reflections which arose from these discussions. Appendix eight provides an abridged version of these.

5.2. Reflections on the data

Participants found the data interesting and illuminating. Many expressed surprise at the degree of variation for some of the terms, as did I, although it was noted that some of that variation involved minor contrasts. Some participants stated that there were some signs they had not seen before, which were particularly helpful and that they might adopt those moving forward. One participant stated "I was surprised by how strong my feelings were about some of the variants. I really liked the signs where the meaning seemed to be clear in the way that they were presented and I don't mean just visually." Meanwhile there were other signs that some participants did not feel worked so well, for various reasons, which are discussed later in this chapter.

It was noted by participants that some signs incorporated multiple features such as iconicity and borrowing. Others noted that the same sign was occasionally used for different terms, "I noticed that there were a few signs that were the same for different terms. I saw the same sign for ***dependent*** being used for ***conditional***, although thinking about it, that makes sense as the conditionals are all about something being dependent on something else. Although there was one sign SMALL (word) for both ***article*** and ***preposition***. I'm not sure how helpful that is. I think we need distinct signs for those things."

One participant commented that she felt some signs were idiosyncratic and that she got the sense that some of the variants were perhaps unique to individual teachers. This raises an important point for me and it is possible that this idiosyncrasy is possibly due to working in isolation and lack of collaboration among practitioners. Teachers have no recourse other than to create a sign for the purposes of being able to refer to a term.

It was noted that for some terms the meaning was easy to convey in the way that it was expressed such as ***antonym*** being realised as OPPOSITE + MEANING. For others this was not always possible. This raised the important issue of how it is infeasible to explain the meaning of a term every time it is referred to (although learners need reminding from time to time) so, once the concept has been taught, a succinct way of expressing it is needed to serve as a referent. One teacher stated: "We can't explain things every time. I explain the meaning of the term when I introduce it but I can't give a big explanation every time I refer to it after that."

5.2.2 Comments pertaining to preferences

There were numerous comments from all the participants which expressed preferences for certain signs and a dislike of others and on occasion the same variant received both positive and negative comments. There were a number of variants which elicited a strong preference. One example was ***affix:***

- "I particularly liked the sign for ***affix*** (V2). It was very visual and was so clear, that's one that I will adopt I think."
- "I liked variant two for ***affix*** – it was clear and represented the meaning."
- "***Affix*** was good and very visual, more so the second video (V2) than the first."

Another example was variant three for ***first/second/third person***. A number of participants commented how variant three was clear both visually and semantically:

- "I think this sign for ***first/second/third person***. (V3) was really good. It was very clear when the presenter referred to himself for the first person etc."
- I liked the third variant for ***first/second/third person***. I liked how they signed FIRST and then PERSON referred to themselves. The SECOND PERSON sign demonstrated the second person (in the signing spatial field) and third person was someone further afield. Much clearer with regard to the meaning."
- "I liked the sign for ***first/second/third person*** – the third variant I think – it was very clear and the way the signer oriented FIRST to himself, and then SECOND to the audience (perceiver) and then THIRD to a third person was really clever."
- "Yes, I agree, the placement and orientation were correct and meaningful. It is interesting because if we compare it with the other two variants, it wasn't that much of a change but this slight alteration to incorporate the location made a lot of difference."
- "I really liked the third video (V3) for ***first/second/third person***. I have previously signed it this way (shows V1) but having seen the other version I really like that."

Variant one for ***contraction*** was also popular among most participants. As described in the findings chapter, variants two, three, four and five indicated metaphorical iconicity by way of signs that all conveyed the idea of shortening/reduction. The first variant expressed this term as two words coming together with the added inclusion of an apostrophe, evidencing iconicity and interpretation.

- "I liked ***contraction*** with the ***apostrophe***, I have been signing this (shows V4) which is still quite visual and I like it but I like the first video more so I think I am going to use that one."

- "I liked ***contraction*** (V1) as I have used this sign (shows V2) and the inclusion of the apostrophe was great."

- "I liked one sign for ***contraction***. We have always signed it like this (V4) but I really liked this sign (V1) as the two words coming together with the apostrophe was great. Looking back, I'm thinking, why didn't we use that?"

- "Variant one for ***contraction*** worked well too, especially for younger deaf children as it was so visual. Maybe other variants with older learners worked well but that variant with the apostrophe was clever."

Variants two and three for ***idiom*** which expressed the idea of "hidden meaning" also gathered some specific feedback.

- "I liked variants two and three that signed HIDDEN/UNDERLYING MEANING.

- "For ***idiom*** I really liked this sign (shows V3) very much. It really made sense. It was made up of two signs HIDDEN and MEANING. So that's one sign that I feel I will use."

Below is a selection of reflections from participants about a range of other variants listed in alphabetical order.

- “With ***alliteration*** it’s the repetition of movement that gives the concept which I really liked.”

- “I think the variant for ***alliteration*** (V4) SOUND SAME might not work for deaf learners.”

- “***Antonym*** was good – I liked those two signs OPPOSITE and MEANING. It explained the term.”

- “***Article*** - some interesting signs for these, I liked variant four as it was showing the main word with big open span of fingers and then the article being placed next to it which was a smaller span of fingers. I liked variant five too, showing that the article is the ‘thing.’”

- “***Clause*** - most I found quite similar but variant four I didn’t like, it looks too much like brackets or parentheses.”

- “I didn’t like the sign NORMAL for ***common noun***. It didn’t convey the meaning.”

- “***Comparative adjective*** - I preferred variant one as it is following the English.”

- “I liked the sign DEPENDENT for ***conditional*** (variant three) indicating something ‘depending on something’. There were quite a few variations on that I noticed. Wow.”

- “I loved ***consonant*** – signed as NOT THE VOWELS. “It was an explanation.”

- “***Complex sentence*** - variant two didn’t make sense and the only one that didn’t add ‘sentence’ at the end.”

- “I liked the first video for ***concrete noun*** (variant one) which indicated a noun that you could see.”

- “I liked the first video for ***ellipsis*** but not the second. It didn’t make sense to me. The first video was visual.”

- “***Irregular*** - both variants work, I do like variant one expressing the idea of NOT FOLLOWING RULES with negation.”

- “***Layout*** of text - all variants were clear and represented meaning, except variant seven.”

- “I have one that would be nice to look at together which was ***modal verb***. It’s hard. I like the signs that expressed DIFFERENT WAYS (variant two) but I feel still didn’t quite capture it. It would be nice to get more variants for this. ***Modal verb*** is not a term you can capture in one sign I don’t think.”

- “I didn’t like this sign (demonstrates variant one) for ***perfect***. I liked variant three though as it conveyed the idea of an action continuing into the present (such as present perfect).

- “***Perfect tense*** - variant two looked like BEEN so maybe confusing with simple past tense. Variant three was most clear in terms of representing meaning.”

- “I liked variant one for ***perfect*** which was using an established sign for finished or completed. I think that was the best one.”

- “There was one sign for ***plural*** that was ADD + S (variant three) and I was wondering about how effective that is because we don’t always add the letter S to make the plural. Also, we add S to the present tense of verbs in the third person singular so I think that for ***plural*** that doesn’t work.”

- “***Plural*** – I liked how variant one started with one finger and then showed multiples. Variant two with two hands with the S added was good too.”

- “With regard to ***preposition*** - variants two and five - I didn’t like these as it was too abstract, showing SMALL. Variant four is perhaps an explanation not a sign. Variant three was ok, SHOW.”

- “I really liked ***proper noun*** and ***common noun*** as large letter and small letter to indicate the former is with uppercase and the latter with lower case.”

- “***Punctuation*** - I liked the sign for variant one going across the body implying that its more than one thing in one place.”

- “***Sentence*** - variants four and six were good. I liked the sign followed by the full stop.”

- “I really liked the one sign that was ***subject-object*** - the same sign close to the body and further away. I’m going to use that. I was thinking why have I never thought of that? I think it is easier than fingerspelling.”

- “I liked that sign for ***subject-object*** too although that sign does imply that the ***subject*** is oneself. Beautifully done. But I wouldn’t use it.”

- “I liked ***superlative adjective*** (shows variant one). It was visual and a nice idea. I didn’t like the other one (variant two) though but the first one I think I might use.”

- ***“Tense*** – variant two was very clear. Variant three was too long-winded - four signs!”

- “I really liked the sign for ***tense*** (variant two) where the movement path proceeded further ahead in front of the signer because I had previously used the sign TIME pointing to my wrist. I think this was very clear and shows the idea of the past, present and future in a very visual way.”

- “I liked the two signs for ***tense*** (variants one and two) indicating the past and present and future all in one movement. I found that useful and I think I would use that.”

- “I’m sorry, I didn’t like the sign for **verb** that was the V handshape (variant two), I was surprised and hadn’t seen that before. I think there is a general established sign for ***verb*** like this (demonstrates variant one – ACTION).”

5.2.3 Initialisation

A very small minority of variants (three) expressed the term by use of the initial letter only (initialisation). These were A for ***article***, C for ***consonant*** and N for ***noun.*** There were other borrowings from the manual alphabet but these were abbreviations using more than the initial letter or words spelled in full or in combination with signs such as A being used in addition to the sign for DESCRIBE for ***Adjective***. This use of initialisation is often a strategy when sign language users do not have, or know, a sign for a particular term. One participant stated, “Those of us who work in education are working under a lot of pressure, with the student and the staff, so if there was a situation where I knew there wasn’t a sign I would try to be creative but I would do so

in a way that incorporated some reference to the English - like A for alliteration, or A for abstract. That happens quite a lot.

However, there were others who felt that this process does not work for learners because it is vague and unspecific. The three variants that used the first letter only to express the term were perceived as unhelpful by a number a participants.

- “I didn’t like the signs using the initial letter for the term such as C for ***consonant***, A for ***article***. I think we can do better than that. There weren’t many but still...”
- “I think for some people initialisation or abbreviations are just shortcuts and a means to an end sometimes.”
- “Watching these clips, I definitely don’t like the initial letter to stand for signs.”

These latter comments echo the statements by Quinn and O’Neill (2008) and Quinn, Cameron and O’Neill (2021) about initialisation and how this and fingerspelling tend to be avoided in signs developed in maths and the sciences, and that these constitute English words “pretending to be BSL”. They argue that as children are exposed to more terms, an increasing number of terms with the same initialisation, distinguished by mouthing only, results in confusion. This would be similarly confusing in the context of English language teaching if ***conditional, conjunction, connective, consonant*** **and** ***contraction*** were all expressed using the letter C. It would be problematic for learners as using the first letter only to refer to the term places an extra burden because of the guesswork involved.

5.2.4 Signs in context

It was seeing the sign for REGULARLY (meaning “frequent”) being used when talking about regular verbs some years ago that first started me thinking about the issue of signs being contextual and how it would be really helpful to have some discussion about the ways we refer to metalanguage. Using signs in a way that is contextual is crucial in all contexts and a process that novice interpreters, being too attached to the English word they are hearing, have to navigate. For example, not using the sign POSITVE when the term might have a negative connotation in a medical context (HIV+) or the sign INTEREST (meaning ‘interesting/interested”) in the context of finance.

Context is an important issue regarding subject-specific signs and I referred to the example given by Quinn, Cameron and O Neill (2021) who state that the loan translation, that uses the signs BLACK (the colour) and HOLE for *black hole* is not contextually accurate in BSL. This issue generated considerable discussion in the second round of interviews. There were a small number of variants that might be considered as not being suitable for context, either because they used another a sign that had another meaning (linked to the word’s other meaning in English) or because as a loan translation it was not effective. These were:

- CONCRETE, meaning the composite material bonded with cement, being used for ***concrete*** (to express “tangible”)
- PERFECT, meaning excellent, used for ***perfect*** tense
- REGULARLY used for ***regular*** verb
- SUBJECT, meaning “theme” or “topic”, used for grammatical ***subject***

- COMPLEX/COMPLICATED used for ***complex*** sentence.
- NORMAL used for ***common*** noun
- CORRECT used for ***proper*** noun

One participant proposed that if the teacher and their learners know the meaning of the sign then it might not be matter if the sign used was not contextual. “In terms of context, yes, I think it matters and matters very much. However, the consideration has got to be what the student is bringing to the interaction. I haven’t used that sign (signed as EXCELLENT, variant five) for ***perfect*** but I can imagine if I was working with a student who was of a more advanced standard of English and understood the meaning of “perfect” in terms of grammar, and understood that this sign is a convenient label and a gloss of the English word then I might consider using it. I may feel that it’s ok but it matters yes, it’s not only a linguistic consideration but also the context.” Another teacher agreed stating that it depends on the students teachers are working with. Generally, participants felt that context was crucial.

- “Yes, like the sign for FORCE in physics – we wouldn’t use the sign FORCE (to oppress/put pressure on) would we? It wouldn’t be appropriate.”
- “For me it’s important for a sign to have the right meaning.”
- “I have seen some hearing teachers using signs that are just not contextual (I’m not just talking about metalanguage). It really winds me up.”
- “We definitely need to make sure the signs that we use carry the right meaning and are contextual.”
- “When I first started out teaching, most of the other teachers were hearing and not good signers and they often used signs that were not contextual. And I think it’s important that we do use signs that are contextual.”

Variant five for ***perfect*** (tense) being expressed using the established sign in BSL that conveys EXCELLENT came under particular scrutiny.

- "I don't think signs like ***perfect*** (variant five) are suitable for the linguistic context. It doesn't carry the correct meaning. It just doesn't work for teaching. We don't want people thinking that one sentence is better than another."

- "I personally think it's very important for the signs to be contextual though. For example, using the sign for ***perfect*** (shows variant five) isn't suitable and is very confusing for deaf learners. I think this is a priority for me and teaching the meaning of the term and using a sign that makes sense and relates to that meaning."

- "I absolutely agree, we need to model good language use to deaf learners and using signs that mean something else isn't helpful. So, with that example, we need to explain that "perfect" can mean excellent but then when we are talking about the perfect tenses explain that this word has another meaning and is different from 'excellent'."

Other comments about contextual signs also pointed to some of the other examples in the data.

- "I liked the first video for ***concrete noun*** (variant one) which indicated a noun that you could 'see'. Rather than the other which signed CONCRETE as cement/stone."

- "I think ***common noun*** signed like this (shows variant one) was the wrong context. And I didn't like ***proper*** being signed as CORRECT. So, I think using signs that are contextual is really important."

- "The sign for ***subject*** (variant one) is a sign that I have been using but I now realise, just through being involved with this project and having to think about it, that it's not contextual and I much prefer the other sign (variant four) the one that uses ***subject*** + ***object*** (nearer and further away from the body). So, I'm going to use that and I feel like I learned something new. This sign (variant one) refers to 'topic' or 'theme', it doesn't really feel right to me. It's just not the right context."

- "The sign that conveys ***regular*** as REGULARLY needs to be different."

- “I think it’s important that the signs we use are contextual yes, so I wouldn’t refer to ***regular*** in that way by signing REGULARLY. I’ve been using this (shows variant two) but I quite liked the first video that signs FOLLOWING THE RULE.”

- “Yes, for example I have seen people using the sign for LIKE (the verb) when really, they mean to use the sign for ALIKE. Or using the sign for READY instead of ALREADY which is something different.”

One teacher suggested that using signs that are not contextual was due to habit. “Regarding signs in context, I think we have become so used to signing things in a certain way, we do so without thinking of the context. We get attached to the English word.” She continued that involvement in this project had allowed for some reflection. “I think this project has helped us to think about what we are using. It’s been helpful to reflect on my language use. I think it has presented an opportunity to break the habit of using, for example REGULARLY for ***regular*** and think more carefully about how we might refer to the term in a way that is contextual and conveys the concept.”

It was generally agreed that some of the established signs taken from BSL and used in the context for metalanguage did work well. One participant put forward her view: “I think some signs as per their established meanings worked well in the context of metalanguage though, like CONTINUOUS and DEPENDENT. I agree that signs such as these are perhaps suitable for the context. The sign for CONTINUOUS in the general sense feels like an effective choice when talking about the continuous form of a verb in that it refers to something that is ongoing. Similarly, the sign DEPENDENT is suitable to talk about a clause that is ‘dependent” on the rest of the sentence for meaning.

5.2.5 Mouthing

While the majority of variants demonstrated an alignment between the mouthing and the term, there were a number (22) that did not (see appendix seven). As described in the findings chapter, examples were, A/AN/THE mouthed for ***article,*** ING for ***continuous***, and THIS/THAT/THESE/THOSE for ***demonstrative.*** This was noted by some participants who indicated a preference against it, indicating that they felt it was important that any English mouthing should correspond to the term,

- "I didn't like the signs where the lip-pattern[6] reads VERB + ADD as I think we need to be using the technical language on the lip-pattern."

- "Lip-pattern must reflect the technical language."

- "I noticed that there were some signs where the lip-pattern was more linked to the English word and not the term. I don't think that works so well. I think it's better if the lip-pattern is linked to the term. ***Demonstrative*** was good in terms of the signs where he was signing THIS and THAT - and I think in terms of explaining what a demonstrative is it works well. But I think keeping the signs but making sure the lip-pattern is linked to the term we are talking about is important."

- "I just want to come back to what you said (speaking to another participant) about the lip-pattern. There was another example of that with ***conditional*** actually, can we see it? Yes, so the lip-pattern was CONDITIONAL but spelling I-F, that was interesting."

- "Watching some of the clips, I noticed with some of the signs that the mouthing wasn't the same as the term itself but was linked to what it meant in English. I think it's important that the mouthing should be the same as the term because when we teach the term it is more recognisable with the correct mouthing."

[6] While scholars tend to refer to this linguistic feature as 'mouthing' it is often referred to colloquially among communication professionals and teachers as "lip-pattern" which is the term used by those involved in the study and I have referred to this usage when quoting and paraphrasing the participants.

5.2.6 Iconic and arbitrary Signs.

Participants commented on the visual quality of some of the signs and generally agreed that those signs that indicated a visually motivated form-meaning mapping were helpful.

- “It’s good to see some of the signs that were visual. I’m thinking about how that helps the learners, particularly younger deaf learners.”
- “For me, I feel that the visual element is important as it’s easier I think for young children to attach meaning to things that are visual.”
- “I really liked the signs that had a visual element.”

One participant put forward the view that what is iconic and arbitrary is subjective as was discussed in the literature review, “I think that the issue of arbitrary verses iconic signs is interesting. It is not a simple black and white thing.” However, there was also some general agreement among the groups that iconicity is not crucial, acknowledging that there are signs in BSL that are arbitrary and that sometimes terms do not always lend themselves to iconicity easily. One participant shared the following, “I don’t think it really matters if some of the signs are arbitrary. We have arbitrary signs in BSL. Of course, everyone has to agree an understanding of the meaning.” Meanwhile another participant stated: “I just want to mention signs that are a bit more arbitrary. We might question a certain sign if there is no discernible meaning behind it - we don’t question signs that are visual - but we accept them.” One more participant asks the question, “Are we making it difficult for ourselves by insisting that it has to be visual? Can we not have some signs that we all accept are not visual? Some are too abstract to be represented visually.”

The general consensus was that it is better to have a sign that is arbitrary than a sign that is not contextual. Says one participant “It doesn’t need to be always visual but I don’t think signs should be out of context, we would be better off creating another sign that is more arbitrary but we know its meaning.” Another agrees: “Having a sign that isn’t visual as long as we know what it means is fine. I think that is better than having a sign that is not contextual. So yeah, something more arbitrary than referring to ***perfect*** in the wrong way.”

5.2.7 Variation and standardisation

Some participants were surprised at the degree of variation but noted that sometimes contrasts were minor or were variations on the same theme, for example, for ***contraction***. It was also acknowledged that variation exists in languages including BSL and participants were familiar with lexical differences in regional/school signs and different number systems. One participant asked “Is it bad that there is variation in sign language?” Meanwhile another stated “I think variation is really healthy and a normal part of language.” And yet regarding subject-specific terms there were a number of comments across the groups that indicated a preference for standardisation.

- “I do think some kind of consistency and agreement would be useful moving forward. It will make teaching metalanguage easier.”
- “I think it’s really important to have some agreed signs for these terms, children move schools, and so do teachers, so having some standardisation is good.”
- “Yes, I mean, at our school some of the terms we just didn’t have signs for and we just made them up. The problem with that is, if the pupil or the teacher move to another school and then different signs are used it can be really confusing. So, I think having some standard signs would be really beneficial.”

- “The variations have been really interesting but we need to think about having some standard signs for things. This way, in the future teachers can refer learners to a video showing the sign and we can use it too. So, I really hope that as a result of this project, and these discussions, we can start to think about perhaps having some standard signs for these terms. It would be great to have a situation where a pupil at primary school, learns the sign for a given term and moves to a secondary school and the teachers are using the same sign there too. This way it doesn’t need to be taught again and they don’t have to learn new signs.”

- “Yes, I moved from one school to another and I had to change some of my signs which was difficult. So, having some agreed standard signs would be useful.”

- “I’m not against variation. I think having different signs is healthy and fine and that’s language. However, for technical language and subject-specific signs I think having some agreed signs is better.”

5.3.1 Reflections on the study

There were a number of helpful and supportive comments about the study. Participants felt that it had been interesting and illuminating and had created an opportunity for reflection on their own practice and for the opportunity to connect with others. This was enormously validating because one of the over-arching aims of the study to develop the sense of a professional community and I had orchestrated the study in way that set out to foster a sense of collaboration and engagement.

There were a number of positive comments about the videos and the presenters with one participant saying “The deaf presenters did a great job of creating the signs” with another stating “I think the videos that were created are super, very clear and it’s a great way to see what other teachers have contributed. The presenters were really good.” Another participant offered some particularly helpful feedback sharing “The presenters did a good job of presenting the variations in a professional and neutral

manner and I can see that we as participants cannot tell which signs came from which participants. That's a really good way of doing it as there's no, even unconscious, bias favouring signs that come from someone you hold in high regard."

There were some comments about the Google Classroom that was established as a collaborative online space. One teacher stated "I liked TESLU and I can see the potential for that space, it seems interactive" while another contributed that "The Google Classroom you set up, which I joined, is a really good idea for teachers and teaching assistants to work together on these issues. I'm going to encourage my boss to join also because I think it will be a great way to improve things in our school by being part of a network." One participant stated that having the data available after completion of the study was important "It's great that they (the videos) are available for everyone to see on the Google Classroom."

Deaf teachers appreciated the opportunity to discuss the issue under investigation with other deaf teachers. One deaf teacher shared "I think it's good that you had so many deaf teachers involved, well done." In the literature review I had addressed Quinn and O'Neill's (2008) observation that although deaf people are involved in scientific-related fields, they tend not to discuss their work with other BSL users. Many deaf professionals work predominantly with hearing colleagues and so the issue of which signs are being used is not addressed. This was raised in one interview by a deaf participant who shared his experience, "I am the only deaf teacher in my area and I've not had an opportunity to discuss this before, the signs that we use for English language terms, and I think we really need it."

Meanwhile another participant makes an excellent point “I was thinking about language evolution and how things become established. I think we need a critical mass of people conversing about this outside of the classroom so this is probably why we don’t have established signs for some of these terms. We need more people talking about these terms for them (signs) to be dispersed. These terms might not be talked about with hearing people either BUT these metalinguistic terms have been published in books and are all over internet but not in BSL, and within the deaf community they haven’t been discussed so much.” It should be noted though that things are changing, and the work of the BSL Glossary project has served as a catalyst for encouraging conversations and investigations among practitioners with regard to signs for subject-specific terms.

The opportunity to engage with other teachers of English to sign language users was a positive experience for participants with one teacher saying “I think getting people together to share their signs is a really good idea” and another expressing that “I think this project has given us the kick that we needed to start thinking about this more because it’s really important. It’s been a great opportunity to collaborate with others.” Additionally, some participants shared how being involved with the study had impacted on their professional practice and had offered an opportunity for reflection.

- “I think what I enjoyed about seeing these videos was getting another perspective and seeing how other teachers might sign something.”
- “It has made me think more carefully about some of the signs I have been using.”
- “I think this will help me think about my teaching and the signs I am using for these terms. It’s important for our practice but also for deaf children in the future.”

- “I think for me, being involved with this project - what has been good about this is having an opportunity to stop and reflect on language use.”

- “Before you approached us about being involved in this project, we were talking about this stuff and how it would be good to do something together. So this was great for getting us together to discuss this topic. I think we need to think about the ways we refer to these terms and be reflective. Being involved in this project has made me really think about things.”

5.3.2 Next steps

Finally, participants shared their views on what they would like to see happen next. One participant indicated that the Google Classroom TESLU could be a starting point for further collaboration “I think it would be really great for the members of TESLU to get to know each other more.” A few participants talked about the importance of sharing the data with one teacher saying “I think you should make this data accessible to schools” while another stated “I think you really need to disseminate this information. It would be a shame for this to fall off the radar and people forget about it. It would be such a waste.” One suggested the idea of presentations “I think you definitely need to give some presentations to deaf teachers about this, not only the ones involved in the project as I think they would love to see this. I mean, it’s been quite fun seeing the videos and seeing what is the same and what is different, deaf people love that. I’m involved with BATOD and the deaf teachers of the deaf network and you should definitely come and present at our conference next year.”

Meanwhile there were suggestions for further ideas to develop the study with one participant saying that “This study jumps ahead a bit - we also need to have a study that explores how we teach the meaning of these terms.” Another expresses the view

that “I think it would be great to have definitions and explanations, same as the BSL Glossary Project does. I think this is a next step. It would be great to have some of these as part of a glossary” (see chapter six for some more discussion of these important points). Many participants indicated a preference for standardisation and that an established glossary would be welcomed. Many referred to the Scottish Sensory Centre’s BSL Glossary Project as an example of good practice and a valuable resource.

- “I think it would be great if we could agree some signs and these can be standardised.”
- “Yes, I agree. I suppose we need to take steps to develop the signs. It would be great to get some agreed signs that we can definitely all use.”
- “I think we should definitely keep discussing these things and sharing our ideas about signs we use. However, I do think that at some future point it would be enormously helpful to have some consensus about what we use and we come together to make some decisions about that, like the BSL Glossary for science terms. I also think we need to have some videos with explanations of the terms but also examples of teaching the concept.”
- “I think this needs to be developed further like the Scottish Sensory Centre, that’s been fantastic and I think we should have a glossary for English terms too.”
- “I’m up here in Scotland. I think you should try and collaborate with the Scottish Sensory Centre and see if we can develop things further. They have some great glossaries for science terms and this could be something you could do. This way teachers can look up terms and see how they can be signed in BSL. There’s some great stuff for science and maths but nothing for English at the moment.”

I would like to close this chapter by sharing something that one deaf participant expressed with passion and eloquence. She addressed that sign languages have evolved so much and for a long time the lexicon of BSL was sufficient for everyday

communication. She makes the point that this is no longer the case. “The lexicon of BSL needs to expand, and as more deaf people are working in professions, we need signs for subject-specific terms. We need to pass it to the next generation of sign language users to show hearing people that our language is really rich. We need to find a way to allow that to happen and that’s by establishing signs for these things. It needs to be in collaboration with deaf people because we can’t have hearing people doing it. We need to not be “advisors” but co-leading.”

Chapter 6: Discussion and conclusion

This chapter offers some of my reflections on the findings and my response to participants' contributions in chapter five. To conclude, I will share my final thoughts regarding the study and give some suggestions for next steps.

6.1 Personal reflections on the data

With regard to how teachers navigate referring to metalanguage in the classroom, the findings were as I expected and aligned to my own practice. A combination of the English word, fingerspelling and signs are used by all of us, often simultaneously, and evidences translanguaging. The data, in relation to the ways that terms were expressed in BSL, was illuminating and fascinating.

I began the study with some ideas of what the findings might reveal and had anticipated that some terms would be conveyed using fingerspelling, that some signs might not be suitable for the context and that some signs would evidence iconicity and transparency (I hypothesised that signs pertaining to punctuation would be transparent). While I had also anticipated there would be some variation with regard to the ways certain terms might be realised by participants, the degree of variation was surprising. However, when presenting the initial findings to DCAL (UCL's Centre for Deafness, Cognition and Language) respected sign language linguists at the presentation stated this level of variation is usual and what they had also observed in studies of BSL. It is difficult to attribute the reason for the high degree of variation. However, my feeling, which I appreciate is not very scientific, is that it is not entirely due to the usual factors leading to variation such as schoolisation, gender, age or geographical location, which were discussed in the literature review. One possible

explanation for such considerable variation is because practitioners are working in isolation and not discussing the signs that they are using, leading to less standardisation and more divergent ways of expressing these terms in BSL. Although the study did not set out to explore the reason for variation, it does feel like the findings leave an unanswered question in this regard, and one that requires further examination.

I, personally, found some of the elicited signs very helpful and I have already started to use some that other participants have shared. It was validating to see others using signs I use and feel work particularly well. Meanwhile, I am disinclined to favour those signs used to express metalinguistic terms which borrow from established signs with different meanings - REGULARLY for ***regular verb***, CONRETE (cement) for ***concrete noun***). From the outset when designing the study, this is one of the issues that I was most interested in and was a driver in wanting to collaborate with other teachers and to understand more about their perspectives. I do think some further discussion moving forward is required to debate the issues of which signs are suitable and preferable.

As discussed in the findings chapter, a number of the signs could be considered transparent and these were mostly the signs that related to punctuation where there was a strong visually motivated form-meaning mapping in terms of the shape/outline of the mark. The terms that related to punctuation were also the least likely to have variation. It would be tempting to posit that there is a correlation between transparency and a reduction in variation. I am reluctant to do so however for a couple of reasons. There were a number of terms that also had one, possibly two variants and this was

not due to transparency but because so few participants offered signs, ***stative,*** for example. Additionally, as was discussed in the literature review, signs can evidence a strong visually motivated form-meaning mapping in many different ways as was noted for ***layout***.

Context is also a factor and a good example of this is the sign for ***exclamation mark***. Produced with a vertical line and a dot underneath it, it is easy to see that this sign refers to this term. However, the exact same sign was used as one way to refer to ***interjection.*** It should be considered that if the perceiver was told that the sign related to a word class they would, perhaps, not offer it was ***exclamation mark***.

The same could be said of the sign for ***singular.*** If we told perceivers that this sign related to an adjective/feeling they might say it meant “lonely” or “independent” but if we said it related to number or grammar it would no doubt elicit a different response. It seems that this issue of context is an important variable.

Another interesting aspect of the study was mouthing. As reported, a majority of signs incorporated an English mouthing, even though some did not align to the term itself. I reported participants’ view that it is helpful if the mouthing is linked to the technical language and some stated, for example, that mouthing DEMONSTRATIVE rather than THIS/THAT/THESE/THOSE is more conducive to the teaching and learning context. I think in that particular case, when teaching the *meaning* of the term, THIS/THAT/THESE/THOSE is still important and helpful - so when we are teaching deaf learners what the demonstratives are then the mouthing can be aligned to these words/signs. When referring to the metalinguistic term I think if there is an English

mouthing as part of the overall way that the term is expressed, it might be better aligned to the technical language. There are many signs in the glossaries of the BSL Glossary Project where there is an English mouthing of the term aligned to the manual production but not all of them are. It appears that English mouthings that form part of the overall production of signs in my study is rather high, irrespective of whether the mouthing aligns to the term or the target meaning in English. It could be that sign language users feel that English mouthing is more important for metalanguage because the context in which we are using signs together with the mouthings gives focus to teaching English. In hindsight, this is something I could have explored further.

The manual element of the signs in conjunction with the mouthing allows for the creation of code blends. This would not be possible with two spoken languages but the different language modalities allow for this though. This echoes the earlier reference I made to Ebbinghaus and Hessman's (1996 p. 27) discussion of mouthing in German Sign Language stating that the code blends "suggest a dynamic interplay of independently meaningful manual, non-manual and spoken units that is only possible because of the multi-dimensional nature of a visual-spatial language". In particular, it is this use of multiple and visible articulators that allow this interplay to happen. Moreover, as a teaching strategy, this use of mouthing in conjunction with the sign (or signs) is conducive for helping to create that link between the sign and the English term.

Many of the participants, the majority of whom were deaf, indicated that they would like to see less variation and more standardisation. Participants agreed that variation in every day language is acceptable and we are used to signs in BSL differing

according to region but also age and other factors. However, when it comes to these low frequency lexical items pertaining to technical language, there was a desire for there to be agreed signs. Teachers and other communication professionals, including me, value the work of the BSL Glossary Project in this regard because it makes teaching and learning easier if we have agreed signs for referents.

6.2 Research considerations

In the literature review, I discussed how I had framed this project as a collaborative enquiry and that Heron and Reason (2005) explain that this is a way of working with other people who have similar concerns to oneself, in order to develop new and innovative ways of looking at things, to create change and improve things.

However, it feels important to reflect on my positionality and proximity to the topic and the participants. Robson and McArtan (2016) state that there are often issues of bias and rigour present in research involving people when there is a close relationship between the researcher and the setting and researcher and participants. They propose that the notion of “researcher-as-instrument” that is central to many styles of qualitative research emphasises the potential for bias. During the investigation, I was undertaking research within my own professional community with fellow practitioners who teach English to sign language users. I was not removed from the topic or participants and perhaps constituted a “socially sensitive subject” (Heron, 1996). As explored in the literature review, another way to look at my positionality, in hindsight, is that of an insider and it could be argued that the investigation could be seen as a type of “insider research”. Fleming (2018) states that the notion of insider research is often contrasted with that of “outsider research” (someone who is not a member of the community or has knowledge of the topic being studied) and was once considered to

be the only form of objective research, and that insider research does not conform to the same standards of rigour. This is because the position of the researcher/s has often been considered to be too close for objectivity and that distance is necessary for valid research. However, Fleming does acknowledge that both outsiders and insiders have to manage issues of identity and knowledge as a result of their position and quotes Chavez (2008, p.474) who proposes that the “outsider-insider distinction is a false-dichotomy”.

On reflection I do feel that my positionality for this particular investigation was advantageous in terms of establishing a rapport with participants and understanding the issue as I was a practitioner dealing with the same issue. My goal was to elicit and describe and report on the signs that were in use. However, the findings that were reported were based on my interpretations and analyses alone. One of the challenges I had was determining the categories of signs (as evidencing iconicity, transparency, semantic change, etc.). If others were involved in analysing the data, then it is possible that other features/categories of signs and other interpretations of the way that they were realised could have been identified. Future collaborative enquiries where more than one researcher is involved in the design and subsequent analysis of the data could benefit investigations such as this one.

6.3 Concluding the study

As with many investigations there were some challenges and limitations with this project. The list of terms created was not exhaustive and there are many more that did not make it onto the list. Examples are transitive, intransitive, relative/reflexive/indefinite pronoun, subordinating/coordinating conjunction, assonance, acronym, declarative / interrogative / imperative sentences, active voice,

passive voice to name a few. This is a minor limitation, that the list of terms explored was not exhaustive, but TESLU presents an opportunity. The online space means that we can continue to add our signs and ways of expressing these terms in BSL to the classroom and discuss them further. There are already more participants in the collaborative enquiry group than there were in this study.

I feel that the sample was representative and had a good cross-section of people working in a number of different contexts and 87 terms was a good start. They were of a sufficient number, and reasonably high frequency within this particular semantic field, to be conducive to capturing some interesting and valuable data.

An early idea for the study was to explore teachers' rationale and motivation for selecting and generating their signs. I decided not to make this a focus because the scope of the investigation was, in part, determined by the finite amount of time in both rounds of interviews. Exploring rationale in more depth would limit the number of signs I would be able to elicit. To do it justice, this kind of focus would need to be a study in its own right as it would not have been possible to collect signs, discuss referring to metalanguage *and* discuss rationale and reflect on the signs. Having said that, there were some occasional instances where rationale for some signs was discussed. Additionally, exploring rationale is complex because we might not be conscious of why we express something in sign language the way that we do and so an investigation of this nature might need to be a separate study. For this investigation, I felt it would be useful for the data to speak for itself, within determined parameters.

One particular challenge when collecting data was eliciting the signs that teachers use rather than their strategies for underpinning what the terms mean. Even after making this clear in the interviews, I had to remind participants that the focus was not about how teachers might explain what a pronoun is in a sentence but more about how they express the term ***pronoun*** in BSL once the meaning of the term is taught to learners.

I think this was challenging for some participants with some of the terms and I empathise with that, teaching the meaning and referring to the term are difficult to separate sometimes. In that regard, the data evidenced some signs that expressed the meaning of the term. While exploring how the meaning of metalinguistic terms is taught was not within the scope of this study I do feel that there is an opportunity here and this study highlights a gap in what we know about how terms are taught. As one participant pointed out during the interviews in the second phase, this study "jumps ahead" and I feel this is something that should absolutely be explored in the future.

Due to the considerable degree of variation for many of the terms, it is not feasible for the data to serve as a glossary of signs for metalinguistic terms. However, it is important to remember that the study never set out to be that. It set out to simply explore, document and describe the ways in which teachers refer to metalanguage in the classroom, and how they might express terms in BSL as part of a preliminary investigation. In this sense the aims of the study were achieved. Additionally, it serves as a springboard for further research and the potential development of a glossary similar to those which exist for other technical and subject-specific terminology. What needs to happen now is further discussion and collaboration, bringing together subject specialists and sign linguists as per the stages of the BSL Glossary Project (Quinn,

Cameron & O’Neill, 2021 p. 29). This team can then establish definitive signs, which can then be evaluated for consensus and suitability.

This investigation, which served as a vehicle for the collaborative enquiry group, is hopefully the first of many. The goal was to limit the sense of isolation and to foster a sense of community with teachers of English to deaf learners and ultimately to start a conversation. It ends, with a beginning.

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Appendix one

Information sheet for individuals invited to participate in a collaborative enquiry

An analysis of how metalinguistic terms are realised in British Sign Language in the context of teaching English to deaf learners.

Project date: Febrary 2020 – June 2021

Who is conducting the research?
My name is Russell Aldersson and I am a teacher of English to deaf adults at the City Literary Institute in Central London. I am undertaking a doctorate degree with the Institute of Education, part of University College London. The institute specialises in postgraduate study and research in the field of education. My focus is the teaching of English to deaf adults who are sign language users.

This study is a collaborative enquiry. This means that the study is participatory and we are researching together. We will explore how metalanguage - the language we use to talk about language - is expressed in BSL by teachers of English to deaf learners in a variety of contexts. We will be looking at terms which are likely to crop up in an English class (noun, verb, adjective, preposition, adverb, regular etc.)

Why am I doing this research and why is it important?
No research has been conducted to specifically explore how metalinguistic terms used in an English class are expressed in BSL. There is some anecdotal evidence that there is a dearth of established and standard signs for some of these terms and I want to know if teachers are resorting to fingerspelling these terms or creating signs that they feel work well for them and their learners. I want to investigate what teachers are doing and what some of the issues are. We are all working in isolation and it is important that we share ideas and suggestions for sharing ways we might develop strategies to talk about metalanguage in BSL. Although not within the scope of the investigation I will be undertaking with you, it will hopefully serve as a stepping stone to future projects such as to develop a resource (a glossary) for teachers. In order to do, this we need to know what signs are in already in use in the classroom. This preliminary investigation will document what is out there.

Why am I being invited to take part?
As a user of British Sign Language, working in contexts where terms relating to English language might be used (teaching deaf learners, working as sign language interpreters, research into language and linguistics) you are suitably positioned to offer some insights into the questions I pose. Your participation will be invaluable in building a clear picture of what signs are in use to share ideas and suggestions for effective strategies when expressing complex ideas

and terms in BSL. By participating, your own contribution is valuable and can play an important part in this collaborative enquiry.

What will happen if I choose to take part?

The study will be conducted in two phases. The first phase of the study is the main data collection phase and will involve me interviewing you to discuss the use of metalanguage in the classroom and to discuss signs or ways of expressing terms pertaining to English language in BSL. The interview should last approximately one hour and will be in two parts. Firstly, there will be a video-recorded discussion relating to the above topic. Then I will take some short video recordings of any signs that you are able to share. The recordings will be conducted on my iphone 11 with a small tripod and we will be positioned somewhere comfortable where we can see each other clearly. You will be interviewed in person by myself together with up to two others. It is important for the study that I interview you in pairs or threes because I am keen to generate some discussion and for us to share our experiences, this is the collaborative nature of the project. Moreover, it sometimes helps to discuss these things in groups as our own responses and reflections can be stimulated by the contributions of others. I aim to interview colleagues who work together for practical reasons and will arrange the interviews for a time and place that is mutually convenient.

The second phase of the study will take place after the initial data are collected and analysed. This second phase will involve me disseminating a report summarising the key findings and themes which emerge from the first phase of the study together videos of the signs that were shared and documented. The videos will re-produce the signs and be modelled by two deaf presenters. It is because I want the project to be collaborative that I will be sharing the analysed data obtained from phase one of the study with you. I will then be inviting you to participate individually in a follow-up discussion with me to share your reflections and thoughts/comments about what you as the participants have shared in phase one (including the signs). This discussion will be conducted remotely via Skype or Facetime and will be recorded. However, if you prefer, you can send me your reflections or comments in English in an email.

Will anyone know I have been involved and what will happen to the results of the research?

All recorded data obtained from the study will only be used by myself for analysis and will not be shown to anyone with the exception of my supervisors at the Institute of Education and the two deaf presenters who will be modelling the collected signs from phase one. These two individuals are not connected to the study or participating in any way other than to model the signs and will only see the data on the day they come to create the videos. They are not required to view first part of the interview (the discussion) will only see the short videos of the signs you are able to share. They will not take any recorded data away with them and data will not be shared with anyone else via any medium.

The findings of the study will be published in a relevant journal and it is likely that I will present the findings at workshops or conferences. The videos which showcase the signs,

modelled by the deaf presenters, will be available as a resource for all participants. As previously stated, one potential outcome of the study is that the data we collect can be used to develop a glossary as part of a future project. No reference will be made to you personally and it will not be known that you have been part of the data collection, unless you choose to share that information, aside from those you were interviewed with in phase one.

Could there be problems for me if I take part?
Your contribution to the study will not affect you in a negative way. For example, you will not be judged or evaluated in terms of your performance as a teacher. You may not feel comfortable being filmed but we can discuss your concerns and if you still do not wish to be filmed you can choose not to participate. The findings will not refer to you personally.

Do I have to take part?
No, you do not. It is entirely up to you whether or not you choose to take part. I hope that if you do choose to be involved you will find it a valuable and interesting experience. I anticipate that the experience will be an informative and positive one.

The study also proposes establishing a collaborative enquiry group that teachers can be part of for ongoing research relating to teaching English to deaf sign language users and if you would like to get involved we can discuss that.

Thank you very much for taking the time to read this information sheet.

If you would like to be involved, please complete the following consent form and return to russ.aldersson.16@ucl.ac.uk

If you have any further questions before you decide whether or not you want to take part please contact me russ.aldersson.16@ucl.ac.uk **or** [redacted]

This project has been reviewed and approved by the UCL IOE Research Ethics Committee

Appendix two

CONSENT FORM

An analysis of how metalinguistic terms are realised in British Sign Language in the context of teaching English to deaf learners.

I have read and fully understand the information sheet describing the study.	YES	NO
I understand that there are two phases to the study and this consent form relates to both the first phase which involves the initial interviews, and the second phase (the online interview with myself) asking for your reflections based on the findings of the first phase.	YES	NO
I have had an opportunity to ask any questions about the study with the researcher in English or BSL.	YES	NO
I am happy to participate and I understand that the interviews in both phases will be video recorded.	YES	NO
I understand that the video-recorded data will not be shown to other people with the exception of the researcher's supervisors (at the Institute of Education) and the two deaf presenters who will be modelling the collected signs and will see the video of the signs shared in the first phase.	YES	NO
I understand that the results will be in a report which will be submitted and possibly be published in journals but no reference will be made to me personally If the findings refer to individuals I will be given a pseudonym.	YES	NO
I understand that I can withdraw from the project at any time, and that if I choose to do this, any data I have contributed will not be used.	YES	NO
I understand that I can contact Russell Aldersson at any time at russ.aldersson.16@ucl.ac.uk / [redacted], if I have any questions or concerns.	YES	NO

Name_____

Signed _____Date _____

Appendix three

PHASE 1 (Notes on metalanguage/warm up question)

Interview 1
(3 deaf teachers, secondary and post-compulsory)

Yes, I use metalanguage
Yes, I have to.
The amount of detail I go into depends on the level.
I think it's really important. Learners need to know about word classes.
It helps and benefits the learners to understand how language works
Learners need to know the function of word classes.
A knowledge of metalanguage helps learners know about structure
Students can categorise
Students can learn about the grammatical rules
Students need to know how things fit together.
It's important for learners to be able to understand how language works, not just English but BSL also.
I think it's crucial that learners have some linguistic awareness of the language they are learning (irrespective of whether or not it is the first language or second language)
It's very difficult to explain things without using grammar words.
One deaf teacher: *Where I come from* (Eastern European country) *we had to analyse the sentence and identify the function of each word and label the word class it belonged to* (parsing).
I try to use signs for terms but I fingerspell words I don't have signs for.
I use signs and fingerspelling too but it's also on the monitor and worksheets in English

Interview 2
(2 deaf teachers primary)

Yes absolutely.
Yes, in most lessons.
One teacher talked about the acquisition model for hearing children. *They can hear what sounds right. Deaf children need to know the function of the words and how they fit together and the only way to know that is to use metalanguage.*
How much metalanguage is used depends on the language level
Yes, but it needs to be age appropriate
To unpack language and analyse it we need the language to do that.
Metalanguage is the foundation of learning language
A learner asked me the other day what the difference was between silence and silent. "I was able to explain that one was a noun and one was an adjective and that was the *difference.* While semantically related, the difference is grammatical and to do with word classes. I suppose it's possible to say that silence is a "thing" and silent is "describing something" but it's much more accurate and helpful to explain that one is a "noun" and one is an "adjective".
Understanding word classes helps with writing.
Deaf learners don't learn acquire language in the same way as hearing children. For deaf learners, English is a second language.
I use signs that I know but fingerspelling too.
We have posters in the classroom with language terms on and we refer to these but also the worksheets and monitor.

Interview 3
(3 deaf teachers, 2 primary one peripatetic primary/secondary)

Yes, it's important
Yes, you must!

We have to give names to things, they need to know this.
Using metalanguage is part of scaffolding – using BSL to compare and contrast with English.
Learners needs to know about the different parts of the sentence.
I'm deaf, and I'm a sign language user and proud of that, but I'm sorry, we live in an English world! They (the learners) need to know English.
Deaf children need sign language first to be able to communicate and make sense of the world around them. They can't learn metalanguage or English without having that first.
It's important to explain in sign language what the meaning of the metalinguistic terms mean.
Metalanguage can be enjoyable and fun.
It's impossible to explain things without talking about language terms. How can we explain the difference between "anger" / "angry" / "angrily" without talking about nouns, adjectives or adverbs?
I think they have to know the word and the meaning first before we teach metalanguage (here he means that the learners need to know what "car" means before we teach that it's a noun).
Deaf learners need to know if something is correct not from knowing if it sounds right but making sure the the right word class is used. "He is anger" vs "He is angry"
Knowing the names of the terms linked to language helps with their development.
We use classroom resources, posters, worksheets - these have some of the terms on them (word classes) and singular / plural etc.
Yes, and signs / fingerspelling.
I don't have all the signs for all the terms. But I uses signs that I do have. It would be great if we could all get together and discuss this because it would be great to know what others are doing (to which I responded, *that's the aim of the study, it's what we are doing*) - participants laugh.

Interview 5
(one hearing teacher – Higher Education).

I learned metalanguage when I learned French rather than through English. But, yes, it's important and I used metalanguage when teaching English to deaf learners.
They are descriptors and fairly important but the target language is more important.

I always make sure that the learners (university students) have the labels in English. I tried to use signs as well but I felt it was important that they had these terms in English so I would give them the list of terms I would be referring to in advance of the lessons.
I always used signs where I could but I stressed the importance of knowing what the English terms mean in English. I was intent on the learners knowing the English.
I remember one learner (an adult) making his own signs for some metalinguistic terms.
Some learners I taught had studied sign language linguistics and found the comparisons useful.
My learners would come across a term and were really keen for me to explain the function of that term.
A word like "adverb" I would explain the meaning and fingerspell it and write it down. And I would explain why we use adverb in English and I would ask the learner if they could give me an example in sign, of course that could be facial expression. My learners were quite engaging about this kind of thing.
I was teaching a specific kind of deaf learner. One man I taught one to one, he was a manager and he always was keen to know more about metalanguage.
I went to a secondary modern in the 1950s and grammar and terms were taught much more than it was in the 70s and 80s. I think it has made a come back now.
I learned English formally, and I had a grammar approach with deaf learners. I explained about how English contrasts with BSL.

Interview 6
(1 deaf teacher secondary, one hearing teacher primary/peripatetic)

Yes I do.
I have very strong feelings on this! (deaf participant).
I don't have very strong feelings but I think that sometimes too much is taught too soon and they might know the terms but can't write a sentence.
I think (to fellow participant) what you are talking about is more about when and I think that's a separate issue. For me, it's very clear, yes, they need to know. They need to know the word in English, and a sign too if we have it.
I've had conversations recently with other deaf people who feel angry because they have no knowledge of metalanguage and think it was their school but of course it was across the board for most schools – it's was about the general approach to teaching

language at the time. There was this big shift to being "free" and "creative" which is great but it was at the cost of knowing about linguistic terms. I was lucky, I learned about this stuff from learning French O level at school.
It's important not to overwhelm learners with metalanguage though. I think we need to start small and build on this as they progress. Teaching them about fronted adverbials at key stage 2 is a waste of time.
Personally, (deaf teacher) I'm really passionate about this stuff and knowing how words behave is really important.
It's really important for learners to know how a sentence works. It's parts. But I agree we need to take it in stages and scaffold learning carefully. For me, learning another language helped a lot with my understanding of metalanguage.
In terms of strategies, they need to know the English word relating to the term but I use signs to support this in ways I think are meaningful.
I spell the terms I don't have signs for.
And we have it in English on classroom resources such as posters and worksheets.
I think one of the reasons why we don't have established signs for these terms is because research into sign language linguistics has only been in the past few decades. We've had very limited discussions in BSL about the language to talk about language and how we might sign these things.

Interview 7
(hearing teacher, qualified interpreter and ESOL teacher deaf learners)

I went to a state grammar school and so the education I received meant that metalanguage was present in the classroom and I really valued that and it gave me the skills to unpack language, so it helped me as a language learner (first and additional languages) – knowing metalanguage was crucial for learning a second language.
So, when it comes to teaching for me, well, it depends on where the learners are at, what their ambition might be but when I was teaching I was working with adult learners and some were from other countries outside of the UK and I did use metalanguage, I often spent part of the lesson which I called (in my own head) "mechanics" - so what are the parts of language. So yes, we did that as a discrete part of language learning.
Other subjects have technical language, art, maths, science and so does English.
So, I felt it was important and because my learners were adults. Many had been deaf learners in hearing classes and felt panicked so I tried to address that by helping them understanding that you can take language apart and I helped them understand some of the meaning of terms in BSL too.

With regard to how I referred to it, I had my own signs, I don't know if anyone else was using them. And the terms were written on the board. I finger spelled the terms too. If I had to summarise how I referred to metalanguage, it was all of those things. it was I felt it was important for learners to have the term in English because they would come across it on websites. And knowing that this would be the case I didn't want them to be frightened of it. So, I would embed the concept or the meaning of the term.
When we discussed what the term was and what it meant we could discuss sometimes as a group how we might sign it. But it would be one that I felt (as an interpreter and linguist) was suitable.
We would, for example, unpack "adverb" and then talk about examples in English in BSL. We had a number of signs for verb and then we used the sign "add". It might not be the best sign but it carried meaning for us in the classroom.

Interview 8
(one hearing teacher, secondary, further/higher ed. and community education)

I trained as a teacher of deaf children in the late 70s. Grammar was still being taught at the time but my course was weak on language and metalanguage – the focus at the time was to encourage learners to speak. I found that very unsatisfactory. I was seeing deaf children who couldn't hear, couldn't speak and couldn't sign.
I subsequently also trained as a teacher of English as a foreign language and did an MA in linguistics and it was there I learned things that would help me teach deaf learners. My BSL was weak back then but my BSL subsequently became good enough. It was very necessary to use an ESOL / EFL approach.
There are a lot of technical terms related to English.
I needed the signs to talk about metalanguage – I developed some of the signs myself.
I set up 5 levels of English class and recruited deaf teachers and training those teachers and we had a group of teachers who were interested in how we might sign certain terms. I was confident of my knowledge of linguistic terms. Many students had such a basic level of literacy.
I was very interested in metalanguage around grammar, I had posters and diagrams (English) and I used signs to refer about metalanguage. I wanted them to know the meaning of certain metalinguistic terms.
I think it's crucial. Bilingual education has always existed on the margins of deaf education.
Very few teachers have the skill to teach these kind of things and you need good BSL.
When I am teaching I use a laptop with a projector. I think BSL is important for talking about English but we have to find a balance that there is not too much discussion in BSL because we need to think about the English. So, while I used BSL I used the written word to talk about English also. Sometimes I would create signs with the learners and

sometimes I would observe what interpreters are using too. Of course, fingerspelling was the easy way if we wanted to use a manual way of representing it when I didn't know the signs.

Interview 9
(one deaf / one hearing teacher secondary school)

Yes, I do and it's important to explain what these terms mean. It was never explained to me (at deaf school).
Yes, I use metalanguage
How much I use depends on the learners and the course. Even with lower levels, you still talk about language and it comes into everyday teaching. Deaf learners are progressing compared to before.
We have learners how are going on to do higher qualifications and I think it's really important that they are able to analyse language and know the names of the descriptors. The learners need to be aware of the language we use to talk about language.
I don't always know the signs for these terms and I'm not sure that there are any but I often fingerspell the terms (hearing teacher)
I think of the meaning of the term (deaf teacher) and I try to create a sign that I think works well. I actually spend quite a bit of time thinking about this and how best to represent the vocabulary linked to English, in BSL.
It's really helpful for explaining about language and very difficult without referring to ML.
I refer to metalanguage using signs, fingerspelling and the written word. They need the English word because they will see it on websites and in books.

Interview 11
(hearing teacher adult ed. ESOL deaf learners)

I think it depends on the learner! I was working with one particular learner and I know that spending a lot of time on ML was not going to be helpful but in contrast I was working with another learner who had a good command of English already and so I was able to use a lot more and it was useful for him. It's only as beneficial as it is useful. I don't think we should spend time on it for the sake of it.
I love it myself! I didn't learn much at school. I'm cautious because it's often used to make learners feel stupid.
I think with regard to helping productive language skills at a higher level I agree it is really helpful. So, it depends on the level.
In terms of strategies I always make sure they have the term in English because that's the target language. I do have signs but I don't know all signs for all terms. I guess I fingerspell the terms I do refer to but always give the English.

I would caution about getting hung up on "adjective" and focus more on how to use one.

Interview 12 (2 deaf teachers secondary school & 16-19)

I do refer to metalanguage yes.
I think this needs to start in primary schools and children be taught about the different word groups (classes).
It helps with writing and structure
I have some learners in year 11 who haven't learned about nouns or verbs and it makes it very difficult to explain things. So, I have to go back to basics and start teaching about nouns, adjectives, adverbs and verbs so that they can use the correct form in sentences.
Because deaf learners can't hear what sounds right they need to learn English in a different way and I think that includes learning about ML.
I think the learners that have more success with writing are the ones that have language awareness and this needs to happen at an earlier age.
The challenge for deaf learners is that in BSL we don't have much difference in BSL in terms of anger as a thing, as describing someone or when doing something angrily – it's roughly the same sign. So, understanding that for English it is difference is a challenge.
I always refer to the word in English because they need to see the word and recognise it but I do use signs to talk about the terms too.

Interview 13
(2 hearing teachers, 3 CSWs (2 hearing one deaf)

Yes, we use metalanguage in the classroom.
It's really important to name words and have signs for these terms also.
I think it's really helpful for learners to know the functions of different words. I don't remember being taught this stuff growing up myself! But I can hear and I learned what sounds right to use English. But the children are expected to do SPAG tests now, and know this stuff.
Yes, learners are tested on this and if they don't know they can't write about it.
Websites and worksheets will use metalanguage and so without knowing about the terms they can't access them.

We are currently completing a breakdown of what grammar features are taught across all year groups in one document, and then we are planning to work together to agree some of the signs we use for these terms.
So, we use signs, and fingerspelling and also the written word is given. They need to know the English.

Interview 14
(2 deaf teachers secondary school deaf unit mainstream school)

I grew up not knowing about some of these terms but I feel as a teacher, that it's really important and it helps with structure and is part of language awareness.
We teach the word classes and their functions absolutely.
I think some knowledge of ML is really helpful, if they know the rules I think it helps with understanding language.
I use shape coding, that really helps I think. Although having moved north the shapes are different (*laughter)*. It's very useful with primary age children I think.
I will definitely teach that a noun is a word that is a place, person or thing for example.
We actually have lessons purely focused on ML itself at my school.
How much depth I go into depends on my learners and what we are doing.
I use signs where I can but I don't have signs for all metalinguistic terms, I don't think we have enough signs.
I use fingerspelling and the written word too in my classroom, they are in English in all the resources.

Appendix four

NOTES ON VARIANTS

1st / 2nd / 3rd Person

V1	Variants 1 & 2 evidence a use of neutral space together with a literal translation of "1 + Person / 2 + Person / 3 + Person"
V2	Variant 2 expresses this in a similar way but with a different orientation of the hand. The rationale given for the orientation of the hand in this particular way was because the terms would be written on the whiteboard like this: 1st Person 2nd Person 3rd Person
V3	Variant 3 orients the location of the sign 1st Person towards the body indicating that, from the signer's perspective, the first person is the self (I). Continuing in this way, 2nd Person is oriented away from the signer towards the perceiver (You). Additionally, eye contact is maintained with the audience to re-iterate "you'. Finally, 3rd person is orientated away from the signer but also away from the perceiver to a 3rd space and eye contact is not maintained but instead refers to an individual that is not the signer or the receiver.
Additional Comments For each variant the English mouthing is aligned with the term itself, so definitely "first" not "one". Additionally, the signer demonstrates the distinction that participants made between ordinal and cardinal numbers in BSL evidencing a "twist movement" to the way 1, 2 & 3 are articulated so expressing "first" and not "one" and so the mouthing and manual components are also aligned. All variants could be considered to be loan translations from English using established signs in BSL so the feature of borrowing is evident (both manually and with the non-manual feature of mouthing. There is certainly an element of iconicity here too, particularly with V3. Each variant realises the term using 2 distinct signs, the number and the sign "person".	

Abstract

V1	This variant uses a sign that can also mean "to conceptualise" or "to imagine" (and possibly therefore polysemous). As to whether or not it is arbitrary or evidences iconicity is subjective. If there is some "guessability" from the manual element it would be probably be linked to the other meanings but the mouthing component is aligned to the term "abstract" and so would be distinguished from the others.

V2	This variant embeds the meaning more I feel by using a sign that means “obscure” or “confusing / not clear” (evidencing polysemy). The non-manual element in terms of facial expression (conveying mild uncertainty) adds to the iconic representation. The English mouthing “abstract” is aligned to the term.
V3	This variant uses a distinct sign in BSL that is somewhat difficult to translate but a quick survey of a few interpreters (not connected to the study) came up with the word “discombobulated” and the sign certainly means to “be thrown” by something, or the act of being confused by something.
V4	This variant feels somewhat arbitrary but conveys the idea of something being “picked” from someone’s thoughts / mind. Mouthing is aligned to the term.
V5	This variant uses the same sign as “to dream” (polysemy or homonymy?). Some iconic (metaphorical?) representation. Mouthing aligned to the term.
V6	This variant evidences iconicity, it could be considered transparent but subjective. The clear non-manual feature (facial expression) agrees with the manual component in such a way that it indicates obscurity and an opaqueness. The mouthing is aligned to the term.
V7	Variants 7 & 8 are arbitrary I feel and articulated almost identically except for the orientation of one of the hands in V8. This could possibly be some idiosyncratic variation.
V8	
V9	This variant uses a sign that is identical in structure to a sign that means “to diverge” or “go off the point’ or “to move away from”. Interestingly it is the same sign used for “irregular”. Most certainly homonymous but could be some polysemous element – but this is subjective. Mouthing is aligned to the term.
V10	V10 has some element of metaphorical iconicity. Mouthing is aligned to the term.
Additional Comments Each variant was realised using a single sign. The mouthing for each variant was aligned the term “abstract”. Variants 2 & 6 incorporate more facial expression and the manual elements are also quite similar conveying confusion or a lack of clarity. Others also evidence a connection to the mind or perception of some kind. V7&8 do seem to move away from this and evidence arbitrariness.	

Adjective

V1	This variant uses a sign that is an established sign for both “describe’ and “explain”. It evidences polysemy and additionally semantic broadening (from the original meaning of describe) and used in the context of metalanguage. The There is also an element of metaphorical iconicity perhaps. The mouthing is aligned the term ‘adjective” and is realised as a single sign.
V2	This variant is identical to V1 but has the additional manual borrowing from English “A” (for Adjective) so 2 single signs.

V3	V3 is identical to V1 with a contrast in hand configuration but this contrast could be considered allophonic.
V4	This variant is also identical to V1 but has the addition of a second sign “word” so “describe” + word”. This could also evidence some “interpretation” - an explanation of the meaning of the term – “describing word”. Mouthing is aligned for “adjective” but the mouthing does not include a mouthing for the second sign “word”.
V5	Variant 4 is a pure borrowing from English using the letters ADJ. Mouthing is “adjective”
V6	This variant evidences a sign that is completely arbitrary – there is no evidence of borrowing or form-meaning mapping in the manual component. The mouthing however, does align with the term “adjective”. This variant was realised as a single sign.
V7	This variant is realised as two signs but the first one could be considered to be a compound “name” + “label” and then a second sign “add”. This variant was produced by only one participant and could be considered a bit of an outlier. Mouthing is aligned to the term.
Additional Comments These seven variants combined evidence single signs, two signs, compounding, borrowing from English through the mouthing of the term “adjective” but also manually with the use of “A” in V2 and “ADJ” in V5. There is evidence of interpretation with the use of “describing word” and also of semantic expansion (using the sign describe for adjective” and of polysemy (for the same reason). There is evidence of metaphorical iconicity “of expressing” in some way and also of arbitrariness. Overall this term managed to encapsulate all of the features of signs with the various ways the term was realised. Variants also evidenced how these features / categories were mutually overlapping (V2 with “describe – semantic expansion together with borrowing “A”). All variants incorporated the mouthing “adjective”.	

Adverb

V1	Variant 1 uses two single signs “add” and “verb” (often articulated using a sign for “action’). I would argue that the signs are reasonably arbitrary. The mouthing is aligned to the term “adverb”.
V2	This variant a reversal of the two distinct parts evidenced in variant 2. In this variant it was expressed as “verb” + “add”. Additionally, the mouthing was not aligned to the term “adverb” and instead as per the manual articulation “verb” + add”. I would say this is somewhat arbitrary and people would not be able to guess the meaning without knowing the meaning of the sign – although the mouthing contributes to understanding. 2 signs.

V3	This variant is similar to V2 and uses the same structure of “verb” + “add” together with the mouthing aligned with the manual production. There is a contrast in the handshape for the “verb” component which is realised using the V handshape. 2 single signs.
V4	This variant combines the previously seen sign for “adjective” (identified in V1,V2 & V4) and then “verb” (as seen in V1 & V2). Some iconic representation by way of the “adjective” and also interpretation “describing verb” - although perhaps this relates to adverbs of manner. Mouthing is “adverb”.
V5	Pure borrowing from English by use of borrowing ADV from the manual alphabet but also with the mouthing which is “adverb”.
V6	Pure borrowing from English by use of borrowing ADVB from the manual alphabet but also with the mouthing which is “adverb”.
V7	V8 evidences a blend of borrowing “AD” and the sign “verb” (action”). Mouthing is Adverb
V8	A rather interesting variant. The signer produces “verb” and then there is a borrowing second but the borrowing does not correspond to the term “adverb” but instead is “ly” which perhaps demonstrates an attempt to embed the meaning thinking about the target language and the fact that many adverbs end in ly. The mouthing is also in synch with the manual component “ly”.

Affix

V1	Variant one shows a simultaneity in terms of the two articulators being brought together. The hand configuration is most certainly that for “word” in BSL. This variant demonstrates a high degree of iconicity. Mouthing is aligned to the term and realised as a single sign.
V2	Variant 2 expresses that an “Affix” can be on either side of the word. For this variant, the signer has one articulator that is static “word” whilst the other articulator (with the same handshape) moves back and forth of either side of the static articulator. Again, some clear use of iconicity is demonstrated. Mouthing is aligned to the term and realised as a single sign.
V3	Variant 3 shows “word” and one articulator remains static while the other joins from the right (from the signer’s perspective). Again iconic. Mouthing is aligned to the term and realised as a single sign.
Additional Comments. All three variants for expressing the term “Affix” evidence a strong iconic motivation together. All involve the sign for “word” and convey another “word” (or part of a word) being “added”. The mouthing is also aligned to the term ‘Affix”. All variants were evidenced using a single sign.	

Alliteration

V1	The dominant hand evidences a sign that is used in BSL indicating “repeat” (polysemy and semantic broadening). Some evidence of metaphorical iconicity with the repetition of movement. A single sign with the mouthing aligned to the term “alliteration”.
V2	This variant is identical to the previous sign but incorporates the use of “A” for alliteration so a borrowing from English (manual alphabet). A single sign with the mouthing aligned to the term “alliteration”.
V3	This is a good example of how iconicity / arbitrariness is somewhat subjective. As a sign language user it carries meaning for me. Here the manual component evidences a repetition of movement but in a different way to the previous two variants. A single sign with the mouthing aligned to the term “alliteration”.
V4	This variant uses two single signs “word” + “same” but the sign for “same” is repeated two more times. Some evidence of “interpretation”. The mouthing is “alliteration”.
V5	This variant uses two singles signs “start” + “sound” and here there is evidence of the signer trying to deliver an interpretation – that alliteration is the phenomenon where the start of the words all have the same sound. The mouthing is “alliteration”.
Additional Comments. One of the most interesting sets of variants for a term. V1-V4 all apply the same use of repetition of movement (3 times altogether) to convey visually the fact that something is repeated (even though they are referring to English, and alliteration is referring to the. spoken medium of language). Evidence of metaphorical iconicity and also of interpretation. Mouthing of the term is consistent across all variants.	

Antonym

V1	The use of “opposite” is evidence of semantic broadening and “opposite” and “antonym” could be considered polysemous. The sign “opposite” can be considered iconic. The variant is realised as single sign and the mouthing is aligned to the term.
V2	This variant builds on the previous one with the addition of the established sign “meaning”. This lends itself to an “interpretation” and an explanation of what an “antonym” is: “opposite meaning”. The variant is realised as two single signs and the mouthing is aligned to the term.

Additional Comments This is an excellent example of the category of “interpretation” and it was through this sign that I am able to define this other category that I was initially struggling to capture. It made me look at other variants for other terms in a similar way (such as demonstrative: this, that, these, those – and “the” for definite article”) and realise that some articulations there was a desire to embed an explanation of the meaning of the term in how it was realised. Test: What is an antonym and this is the sign that could be given as an answer.

Apostrophe

V1	As anticipated all participants shared exactly the same sign in the same way. There was a strong visual motivation for producing the sign in this way, tracing the shape this punctuation mark in neutral space. Like in written punctuation, the shape of the mark is traced in the same way as for comma. When realised in BSL, all participants differentiated “Apostrophe” from “Comma” with the location parameter, with the former being higher and comma being lower. This sign evidences transparency. Mouthing aligned to the term.

Article

V1	This variant evidences borrowing from English with the three articles A/An/The although the borrowing is related to the target language of English and what the articles are – simultaneously evidencing an “interpretation” of “article’. The mouthing is not aligned to the term ‘article” itself but in synch with the spellings of the three individual articles.
V2	This variant attempts some iconic realisation by the use of “small” meaning a “small word”. A single sign and the mouthing is aligned to the term “article”
V3	This variant is a borrowing from English. and use of initialisation referring to the letter “A”. There is a slight repetition of movement and altogether there are three taps to the thumb “letter A” possibly referring to the fact that there are three articles in English. Realised as a single sign and the mouthing is aligned to the term.
V4	Variant 4 uses “word” being added to another (similar to prefix). Some iconic representation. Mouthing aligned to the term. Realised as a single sign.
V5	Variant 5 uses point referencing but is quite arbitrary (we don’t know what the person is pointing at exactly. Mouthing aligned to the term. Realised as a single sign.

Brackets

V1	All participants realised this in the same way with “Brackets” being expressed with a strong iconic motivation, tracing the shape of brackets and could be considered transparent. This is one term that could be explored further given that there are different types of brackets { [(< and if it would interesting to see if signs would

	differ to express these. In this instance “Brackets” as a generic term was put to participants. Mouthing aligned to the term and realised as a single sign.

Clause

V1	This variant evidences some iconic representation with the established hand configuration / sign for “word” being brought together. It is identical in structure and form to V1 of “AFFIX”. Realised as a single sign and the mouthing is aligned with the term.
V2	This variants evidences two distinct signs I feel and is produced as “sentence” and then “word” with an emphasis on “word” at the end. Mouthing aligned to the term. Some iconic representation.
V3	Again, some iconic representation indicating a “section” – realised as a single sign with the mouthing aligned to the term.
V4	Again, some iconic representation indicating a “section” although a different location parameter (and additional movement) realised as a single sign with the mouthing aligned to the term.
Additional Comments There four variants all evidence some iconic motivation for clause with different hand configurations but quite similar. They express the idea of a “section” in a sentence or a number of words together (metaphorical iconicity)	

Collective Noun

V1	Variant 1 uses the sign “group” (polysemous) and evidences semantic broadening. It also evidences “interpretation” and of participants thinking about the fact that a collective noun is a particular noun that gives a name to a group of things. Mouthing aligned to the term. A single sign.
V2	Variant 2 expresses “collective” using the established sign “many” but was much less common (possibly polysemous?). A single sign, mouthing aligned to the term.

Collocation

V1	Variant 1 was indicative of a standard sign as the majority of participants expressed “collocation” in this way. It also evidences a “compound” sign which is different from the two separate signs as seen in Variant 2. Sutton- Spence & Woll state that compound signs are articulated quicker than two separate signs. The length of a sign that in a compound sign is similar in duration to a non-compound sign. This is because there is a blending and quick

	transition and loss of repetition and compression of the first sign in a compound. In essence, the rythmn of a sign changes when a compound is produced. • The initial hold of the first sign is lost • Any repeated movement in the second sign is lost • The base hand of the second sign is established at the point in time when the first sign starts • There is rapid transition between the first and second signs. • The first sign is shorter than the second. "Collocation" in this instance is essentially two morphemes (two units of meaning) brought together to create a new sign with a different (but related) meaning. There is "word" (1 morpheme) and another (1 morpheme) that I am choosing to interpret as "connection" rather than "join" (although structurally "connect" and "join" are the same sign in BSL, because semantically collocation is not about a joining but about a connection, The hold of the first sign is lost as it quickly transitions into "connect". This evidences iconic representation and perhaps "interpretation" Mouthing is "Collocation"
V2	Variant 2 on the other hand evidences two separate signs. The hold is not lost and the transition is slower. It is realised as "word" + match" and evidences an "interpretation" also. Mouthing also "collocation"

Colon

V1	Realised as a single sign with all participants expressing "colon" in this way. This evidences a strong iconic motivation and could be considered transparent. Mouthing is "Colon".

Comma

V1	"Comma' is produced in the same way by all participants and is iconic and probably transparent. Note the location contrast with "apostrophe' produced higher in neutral space. "Comma" and "apostrophe" could constitute a minimal pair in BSL given that the handshape, movement and orientation are all the same with a slight contrast in terms of the location to reflect the positioning of these two punctuation marks in English. Mouthing is "comma"

Common Noun

V1	Variant 1 expresses "common" by using an established sign in BSL that is used for "standard" / "uniform" / across the board /. Some element of iconic representation. Realised as a single sign and the mouthing is aligned to the term.
V2	Variant 2 using the same sign in BSL as "normal" (and can be said to be polysemous) but the mouthing is "common".

V3	Variant 3 uses a sign that is often used for “repeat” or “again” (and here the participants are trying to convey that “common” is something that is seen again and again or repeated. Mouthing is “common” and realised as a single sign.
V4	Variant 4 uses the sign for “many” (again can be considered polysemous) and evidences some semantic broadening. A single sign and mouthing aligned to the term.
V5	Variant 5 demonstrates something quite effective. “Common” is realised by conveying the idea that it is a noun that does not require a capital letter – a small letter noun. The same signer uses the reverse of this sign for proper noun (Capital Letter Noun) by starting a small C handshape for "letter" (possibly C for capital) and becoming big denoting that a proper noun is one that requires a capital.) I think this is an interesting variant (together with Proper Noun) and is iconic but also interpretative and seeks to embed the meaning for learners. Realised as a single sign and the mouthing is aligned to the term.

Comparative Adjective

V1	With variant 1 we can see the two established signs “to compare” + “adjective”. The mouthing is “comparative adjective”. Evidence of loan translation.
V2	With variant 2 there is a borrowing from English but looking at the target language “more” and “er” (that makes direct reference to the two ways in which the comparative can be formed), evidencing an embedding of the meaning (interpretation). They are two separate “signs” (one sign and one spelling). Here the mouthing is not aligned to the term but instead to the “more” and the “er”.
V3	Variants 3 & 4 are similar in that they both begin with the established sign “adjective” but a second sign demonstrates some kind of degree (becoming more than) and is evidence of iconicity (metaphorical). The mouthing for both variants incorporates “adjective” but not the term “comparative”.
V4	

Complex Sentence

V1	Variant 1 uses a direct borrowing of English by using the established sign for “complex” together with what can be described as a standard (determined by this study) for “sentence”. I think this is essentially a “loan translation” This difficulty with this is that a complex sentence does not mean that the sentence is difficult to understand or complex in that sense. It simply means that it contains at least one dependent clause. But that’s the same issue in English too for hearing learners who learn that “complex” means at least one dependent clause. Mouthing is aligned to the term. 2 x single signs.
V2	Variant 2 evidences a more visually informed way of expressing “complex” that by setting up a sentence and then referring to a part of it that is dependent on another part. Evidence of iconicity and perhaps ‘interpretation”. One single sign, mouthing is “complex” only.

V3	Variant 3 is expressed as “deep” sentence. The manual component is “deep” (broadening and polysemy) but the mouthing is “complex” - the second sign is “sentence” and the mouthing is aligned evidencing borrowing.

Compound Sentence

V1	V1 seems to be a loan translation of the term “compound” (realised as a “bringing together”) and “sentence”. Evidence of iconicity also. This variant was realised using two distinct signs and the mouthing “compound sentence”.
V2	This variant was realised as a single sign and incorporated the mouthing “compound” only and not sentence. Manually, it was realised as two things being brought together and is similar in form and structure “AFFIX” (V1) and “CLAUSE” (V1). Evidence of iconicity.
V3	V3 evidenced a strong visual motivation and also some level of interpretation. It is comprised of what feels like 3 separate signs that starts with “sentence” and then two clear “signs” that convey a section and another section in different location – expressing for the perceiver that a compound sentence is a sentence comprised of two distinct sections (independent clauses). The mouthing here is compound but the manual sign of sentence has no mouthing.

Concrete Noun

V1	Variants 1 captures the idea of a concrete noun being something that we can ‘see’ unlike an abstract noun (iconic but also evidence of interpretation). The sign evidences homonymy with “see” but possibly constitutes polysemy. Realised as a single sign and the mouthing is “concrete”.
V2	Variant 2 uses an established sign in BSL for “concrete” but one that means a composite material. It is clear evidence of semantic broadening but arguably used out of context and removed from that of metalanguage. Sign is relatively arbitrary.
V3	Variant 3 uses an established sign from BSL that is used for “foundation” or “established”. The sign is relatively arbitrary but others may feel differently. Single sign and mouthing is “concrete”
V4	Variant 4 uses an established sign that is used to mean “depend” or “dependent” or “fixed”. No real evidence of interpretation or form meaning mapping. Mouthing is concreted – a single sign.
V5	This variant uses a sign that is also used for “thing” or “object” in BSL. Mouthing is concrete.
V6	This variant uses a sign that is also used for “clear” (easy to perceive, understand, or interpret). Mouthing is concrete.
Additional Comments All variants realised “concrete” as a single sign and the mouthing in all 6 was aligned to the term “concrete”. V1 & V6 seems to be the signs that carry more weight in terms of meaning-	

making with the former expressing the idea of a concrete (noun) being one that we can see and for the latter “concrete” more generally as “clear” – and the opposite of abstract.

Conditional

V1	Variant 1 uses an established sign for “uncertain” or “undecided”. Some metaphorical iconicity feels evident but most certainly semantic broadening and also interpretation, the rationale here perhaps that the conditionals are all rooted in the “if” aspect. Realised as a single sign and the mouthing is aligned to the term “conditional”.
V2	Variant 2 builds on the first variant with 2 signs. The second is produced in the same way. The first is an additional sign “will”. There seems to be evidence of an interpretation again here “Will? Undecided”. The mouthing is not aligned to the term this time but instead to the manual sign “Will”.
V3	Variant 3 uses an established sign that is used to mean “depend” or “dependent” or “fixed”. It is identical to the variant 4 of “concrete” although in this instant there is perhaps some evidence of interpreting built into this sign because the conditionals, “if clauses” are all rooted in the idea of something being “dependent” on something happening. A single sign, the mouthing is aligned to the term.
V4	Here the sign is a direct borrowing from English thinking about the target language of English “IF”. Interestingly, the mouthing is not in synch with the manual element. The mouthing is “conditional” and aligned to the term even though the spelling is “IF”.
V5	This variant uses an established sign from BSL which means “maybe’ evidencing polysemy and broadening. The mouthing is “conditional” and the term is realised as a single sign.
V6	This variant uses an established sign from BSL which means “possible’ evidencing polysemy and broadening. The mouthing is “conditional” and the term is realised as a single sign.
V7	This variant uses an established sign from BSL which means “but’ and also “condition” evidencing polysemy and broadening. The mouthing is “conditional” and the term is realised as a single sign
V8	V8 uses a sign that expresses the idea of something following something else. This is interesting from a semantic point of view given that the conditionals express the idea of one thing following or being dependent on another • If it rains, I will stay home • If I won the lottery, I would buy a house • If I had gone to the party, I would have enjoyed myself. Mouthing is conditional
Additional Comments	

This set of variants demonstrate the wide-ranging rationale and thought processing going on among participants. “possible” / “maybe’ / “IF” all convey the idea of something not being determined. A mixture of mouthings with some aligned to the term and some aligned to the manual component.

Conjunction

V1	This variant uses an established sign in BSL that means “connect” or “join” (evidencing semantic broadening and polysemy). Evidence of iconicity in how the sign is produced. Realised as a single sign and mouthing is aligned to the term.
V2	V2 is the same sign seen for “Affix” (V1), “Clause” (V1) and “Compound Sentence” (V3). It uses the hand configuration used for “word” and brings them together. Evidence of iconicity. Realised as a single sign and mouthing is aligned to the term.

Connective

V1	All participants used the same sign for connective indicating a sign that is standard using the established sign “to connect’ or “connection” in BSL. Again, Both evidence semantic broadening, interpretation, iconicity and polysemy. Identical in form to V1 of “Conjunction”. Mouthing is aligned to the term.

Consonant

V1	V1 indicates a borrowing from English (C for consonant) using initialisation, one of the few variants (along with a variant of noun) to do so. Mouthing is aligned to the term.
V2	The most common strategy across a majority of participants as evidenced in Variant 2 was to refer to the vowels using negation (non-manual feature) so “not the vowels” and then add “the others’ (the others being the letters that are not vowels). This seemed perhaps more of a way of explaining what a consonant is rather than constituting a single or compound sign (or even two signs together). Again, this is evidence of interpretation.
V3	Variant 3 gives the first few consonants (B,C,D) of the English alphabet, evidencing borrowing.

Continuous

V1	Variant 1 was the most common way to express “continuous” using an established sign for “continuing / continuous” from BSL and this choice of sign works fine in the context of talking about grammar and the continuous tense. It’s not semantic broadening either, it’s simply using an existing sign. Realised as a single sign and mouthing is aligned to the term.

V2	Variant 2 works in a similar way (but realised differently across the parameters) and evidences iconicity. Realised as a single sign and mouthing is aligned to the term.
V3	Variant 3 expresses continuous by fingerspelling “ING” as per the form in the continuous tenses. This evidences borrowing and also thinking about the target language of English (that the continuous form uses the present participle). While V1 & 2 mouth “continuous”, V3 mouths “ing” - thinking of the target language.

Contraction

V1	V1 expresses “contraction” as “two words” being brought together with the very visual addition of the apostrophe to refer to the fact that contractions include this punctuation mark. This is certainly “purely iconic” and possibly transparent. Realised as 2 single signs and mouthing is aligned to the term.
V2	Variants 2, 3, 4 & 5 all express contraction in similar ways but with contrasting hand configurations evidencing some kind of metaphorical iconicity that implies a shortening or reducing. Realised as a single sign and mouthing is aligned to the term.
V3	
V4	
V5	

Countable Noun

V1	This variant is an established sign that is used for “accounts” and “statistics” – evidence of broadening and polysemy. Realised as a single sign and mouthing is “countable”
V2	This variant is an established sign that mean “number” and evidence of broadening and polysemy. Realised as a single sign and mouthing is aligned “countable”
V3	This variant produces 2 signs “thing” and then 1,2,3,4,5 as a single sign (counting). Mouthing is “count”.
V4	Variant 4 is a loan translation but done so in quite a visual way. It is iconic and shows counting 1234 and then adds a second sign “noun”. The mouthing is aligned to the term “Count Noun”.

Definite (Article)

V1	This variant uses a single sign “definite” an established sign in BSL. Mouthing is “definite”.
V2	This variant expands on V1 and is produced using 2 signs incorporating a “pointing” sign to something specific and adding the sign “definite”. Mouthing is “definite”.
V3	V3 uses a sign seen also as a variant of “Conditional” (V3) and “Concrete” (V4). Arbitrary. Mouthing is definite.

V4	V4 evidences iconicity and uses pointing similar to the first part of V2. Mouthing is definite.
V5	V5 is a borrowing from English but thinking of the target language and the definite article being “The”. It is a spelling using the manual alphabet and the mouthing is aligned with the spelling “The” and not the term “definite article”

Degree (Adverb of)

V1	Iconic use of scale observed. Mouthing aligned to the term.
V2	Iconic use of scale observed. Mouthing aligned to the term.
V3	Note that Variant 3 used an established sign for “strength” (probably with a correlation to intensifying, quite, very, extremely etc.). No mouthing and use of facial expression congruent with the manual component strength
V4	Iconic use of scale observed. Mouthing aligned to the term.
V5	V5 uses a sign that is used in BSL to mean “various” or “diverse”

Demonstrative

V1	Variant 1 captures this using point referencing and is somewhat transparent (assisted by the mouthing) by referring to all 4 demonstratives in English, this/that/these/those. The mouthing corresponds to the four demonstratives and *not* the term “demonstrative” (similar to the use of “a/an/the” for article. The locative aspect of the sign captures the near and far aspect as does the reference to the singular and plural in a naturalistic and effective way. Demonstratives are determiners and this variant focuses on this fact by using the signs in a way that “specifies” something. This variant is excellent evidence of “interpretation” - we can ask the question “what is a demonstrative” and this sign would be the answer. I think this is perhaps a good test of those signs that evidence “interpretation” to ask that question, it’s possible to do the same with “what is an antonym” and we have the answer “opposite meaning”
V2	V2, 2 & 4 are perhaps influenced by the English and is articulated using the verb “to demonstrate / show” which is perhaps not contextual. They are all realised in different ways across the parameters. Mouthing aligned to the term.
V3	
V4	

Dependent Clause

V1	This variant uses an established sign for “dependent” in BSL. Not necessarily semantic broadening? It could be argued that there is some measure of metaphorical iconicity (one finger, hooked on another – one thing anchored to another). Realised as a single sign and the mouthing is aligned to the term.
V2	An interesting variant. Here there are three distinct signs. We have two signs “clause” (produced as a section) + “dependent” (using the same established sign

	in BSL as evidenced in V1 and then a third sign “connection”. The mouthing is “clause dependent” (not dependent clause) and follows the order of the manual components.
V3	This variant captures something interesting. It produces two signs, the first of which is the sign “comma” but instead of one comma, there are 2 produced with each articulator. The second sign can be identified as “clause” but there is a movement parameter involved which conveys the idea of the clause being removed (and a dependent clause can be removed leaving the rest of the sentence intact). This is an excellent example of iconicity overlapping with interpretation where the meaning is of the term is embedded in how it is produced. The mouthing is not aligned to the term but to the first sign “comma”.

Determiner

V1	Variant 1 uses a sign already seen in V5 for “article”. Here the sign uses point referencing to refer to something specific. Some element of iconicity and realised as a single sign. Mouthing is “determiner”
V2	Variant 2 uses an established sign for “definite” (which might evidence some degree of polysemy) and also “true” (which might not). A single sign, the mouthing is aligned to the term.
V3	Here is a single sign but with a repetition of movement. It expresses the idea of lots of small words. Some evidence of iconicity but not sure how useful it is as a way to convey this term. A single sign, the mouthing is aligned to the term.
V4	V4 uses a sign that is an established sign that means “specific” or can be the verb to specify”. This is evidence of semantic broadening and polysemy. Mouthing is aligned to the term.

Direct Object

V1	This term did not elicit a sign from many participants. Those that did chose to convey direct object using a direct or literal loan translation from English using the established signs from BSL for “direct” and “object” (in the general sense). Realised as two separate signs and the mouthing is aligned to the term “direct object”

Dynamic Verb

V1	V1 uses an established sign for “action” (evidence of semantic broadening and polysemy) to convey the idea that dynamic verbs have actions. Realised as a single sign the mouthing is aligned to the term “dynamic”.
V2	V2 uses a sign I have observed and used before for the term “dynamic” but the noun rather than the adjective as in “it was an interesting “*dynamic*”. Where dynamic is an “environment”. Realised as a single sign the mouthing is aligned to the term.

V3	V3 uses an established sign for “movement” (evidence of semantic broadening and polysemy) to convey the idea that dynamic verbs have movement (for the most part). Realised as a single sign the mouthing is aligned to the term “dynamic”. Evidence of iconicity.
V4	V4 is rather arbitrary and looks at first glance like someone playing the xylophone (it isn’t). A single sign, the mouthing is aligned to the term “dynamic”.
V5	V5 might be considered arbitrary to some but for me I feel there is some degree of iconic representation. Perhaps because I know what is being conveyed and so as the perceiver with that knowledge I can say that. Worth discussing in the findings chapter. Mouthing is aligned to the term. Single sign.

Ellipsis

V1	Only two variants for this term, the majority of participants opted for the iconic and perhaps transparent “…”. A single sign the mouthing is aligned to the term.
V2	A few participants chose to take a semantic approach expressing ellipsis as something “missing” (interpretation?). It uses the sign for “missing” or to denote something that was there but now has gone. A single sign the mouthing is aligned to the term.

Exclamation Mark

V1	This sign was consistent across participants tracing the shape of the punctuation mark and evidencing transparency. Mouthing aligned to the term.

Full Stop

V1	All participants chose to produce this in exactly the same way as a point in neutral space, again evidencing transparency. However, this is subjective as without knowing that this sign relates to ML or more specifically punctuation it might be perceived as “dot” or “point” rather than “full stop”. This serves as a discussion point about transparency / iconicity and how the perceiver also plays a big part in meaning-making and involves cultural knowledge, context etc. Mouthing aligned to the term.

Future

V1	A well-established sign in BSL, this variant is “future” - realised as a single sign and the mouthing is aligned to the term. There is some metaphorical iconicity evident here in that future is expressed indicating something “ahead”.
V2	This variant is somewhat arbitrary and used by a minority of participants. Realised as a single sign and the mouthing is aligned to the term.
V3	This variant evidences iconicity and perhaps interpretation. It conveys the idea of a time period that is forthcoming. Realised as a single sign and the mouthing is aligned to the term.

Additional Comments It could be argued that this is not exclusively a metalinguistic term although it is used as such. All three variants used signs that are variants of “future” in BSL. I would argue that this is an example (similar to “continuous” or “definite”) where the sign as per its general meaning can be used effectively in the context of ML (unlike ‘regular” meaning frequent for regular verb or “perfect” meaning flawless for “perfect tense”.

Grammar

V1	This variant evidences a compound sign (one of few from the data). There is evidence of borrowing as demonstrated from the use of the “G” from the manual alphabet at the start of the sign (one morpheme) which blends quickly into the second morpheme. The mouthing is aligned to the term “Grammar”.
V2	This variant uses an established sign in BSL which means ‘structure”. Evidence of semantic broadening and polysemy. Perhaps also iconic representation in that something is being built onto each other and connected and a degree of interpretation (again, the test, what is grammar? “structure”. Mouthing aligned to the term.
V3	V3 uses a sign that is has often been used for “spreadsheet” but I think in this instance the signer is trying to convey the idea of something being laid out. So some metaphorical iconicity on the part of the signer but how the perceiver will see that is subjective. Realised as a single sign and the mouthing is aligned to the term.
V4	This variant is a borrowing from English using the letter “G” only although unlike the letter “G” when used on its own there is a repetition of movement (does this match the two syllables in “grammar”?). Mouthing is grammar.
V5	V5 resembles the second morpheme in V1 although slightly different but the same idea is expressed “something being laid out”. Realised as a single sign the mouthing is aligned to the term. There is a repetition of movement and I’m wondering again if this is to synch with the two syllables in the word “grammar’.

Helping / Auxiliary Verb

V1	This variant can be considered a loan translation. It is realised as two single signs using “help” and “verb”. Mouthing is aligned to the term. This is example of how a sign used in the general context can be used effectively in the context of ML and teaching.
V2	This variant is identical in form and how it is realised – two distinct signs “help” and “verb”. I’ve identified it as another variant due to the mouthing contrast – in this variant the mouthing is dropped for the sign “help” and replaced with facial expression. “Verb” is mouthed.

V3	This variant is identical to form as V1 of “Adverb” “add” + “verb”. Some attempt at interpretation but perhaps not fully realised. Realised as two signs but the mouthing is articulated only for the second sign “verb”.
V4	This sign is more of an interpretation using three distinct signs ‘Verb” + “word” + “add” with the mouthing aligned to the two first manual signs.
Additional Comments The term “helping” verbs has come to replace the more traditional term “auxiliary” verb but is the same thing. The written stimuli on the Power point was given as “helping verb / auxiliary verb” for clarity.	

Homonym

V1	V1 realises this with two single signs “sound” & “same”. By definition of the sign “sound” it is clear that signers are referring to spoken language and also the idea of a “homophone”. Evidence of an interpretation. The mouthing is “homonym”.
V2	Variant 2 works in a similar way and shows “look” + “same’ and evidences an “interpretation” are referring to homograph. Mouthing is aligned to the two manual signs ‘Look” + “Same”.
Additional Comments It is interesting that the mouthings take a different approach with V1 being aligned to the term itself and V2 the mouthing is aligned to the two manual signs. I think this term is slightly problematic in that there is often confusion between homonym, homophone and homograph. Perhaps a methodological problem and the three items should have been included in the word list. This is something that can be explored as part of future research.	

Hyphen

V1	This term was expressed in the same way across all participants evidencing a strong visual motivation by making the hyphen mark in neutral space. Can be considered transparent but perhaps only if the perceiver knows the context we are talking about. Realised as a single sign and the mouthing is aligned to the term.

Idiom

V1	On the surface, “Idiom” is produced in such a way for V1 that it appears arbitrary. However, the sign could be described as resembling a way that some signers express “don’t know” or “have no idea”. Given that idioms are often about hidden meanings I wonder if there is some metaphorical iconicity here? Realised as a single sign the mouthing is “idiom”
V2	V2 evidences some degree of metaphorical iconicity I feel, using an established sign “replace’ (simultaneously evidencing some semantic change and certainly homonymy but possibly polysemy). Perhaps the participants that shared this sign

	are thinking of how the true meaning is replaced with words that actually mean something else. Raining “heavily” is replaced with “cats and dogs” etc. Realised as a single sign and the mouthing is “Idiom”.
V3	V3 is rather interesting. It is realised as two single signs although the mouthing is aligned to the term ‘Idiom’. The two signs are “hidden” + meaning” which evidences an interpretation.
V4	V4 is quite similar to V3 and again it is realised as two single signs and again the mouthing is aligned to the term ‘Idiom’. The second sign is also “meaning” but the first sign is a sign produced in such a way than means “underneath” or “under the surface”. This is most certainly evidence of “interpretation’. Here the participants are saying that “Idioms” have a meaning that is underneath the surface meaning.

Imperative Verb

V1	Evidence of a loan translation “Imperative” and “verb” with “Imperative” being realised using an established sign for “must”. The mouthing is aligned to the term with each mouthing in synch with the manual sign. Realised as 2 signs.
V2	V2 is realised in a similar way but “imperative” is realised with a hang-configuration contrast (yet retaining the same location and movement and orientation). Again, the mouthing is aligned to the term with each mouthing in synch with the manual sign. Realised as 2 signs.

Indefinite Article

V1	This variant is identical in form to V1 of Definite Article and uses a single sign “definite” an established sign in BSL. It is distinguished by the very clear non-manual feature of negation using headshake. Mouthing is “*indefinite*”.
V2	This variant uses a sign that could be described as “Any” (not specific) and is realised as a single sign and mouthing is “indefinite”. Additionally there is evidence once again of headshake / negation.
V3	V3 uses a sign seen also as a variant of “Definite” (V3) “Conditional” (V3) and “Concrete” (V4). Perhaps more arbitrary. Mouthing is *indefinite* and realised as a single sign.
V4	V4 is hard to unpack. There is some evidence of metaphorical iconicity and sign language users might infer the idea of the meaning as being “not be defined”. A single sign, the mouthing is “indefinite”.
V5	V5 evidences a borrowing from English and also of interpretation. Here the participants are referring to the target language of English and spell “A/An” and the mouthing is aligned to the spelling and not the term “indefinite” or “indefinite article”

Indirect Object

V1	Similar to “direct object” this term did not elicit many signs from participants. The majority did not have a sign and would choose to fingerspell the term. Those that offered a sign evidenced a loan translation and is very similar to direct object with the modification for “indirect’ with a change in movement to express in a somewhat iconic way the concept of “indirect”. Realised as two single signs the mouthing is aligned to the term.

Intensifier

V1	This term only elicited one sign from a couple of participants and was expressed using a sign that could be described as “emphasise” or “reinforce”. Realised as a single sign the mouthing is aligned to the term. Some metaphorical iconicity perhaps.

Interjection

V1	Variant 1 conveys “interjection” as “exclamation mark” which evidences a strong visual motivation given that many interjections in English are often accompanied by an exclamation mark (they express strong emotions Wow!, Good! Oh!). This is an interesting one because the sign “exclamation mark” could be considered transparent and this is exactly the same sign but it might not be transparent that we are talking about an interjection. This is a great example of how form-meaning mapping is not the only factor in what constitutes transparency but context and the perceiver. Realised as a single sign the mouthing is aligned to the term ‘interjection”.
V2	Both variants 2&3 are signs that provide evidence of semantic expansion but do so in such a way that is perhaps not contextual. Both signs convey the idea of ‘interjecting” (the verb not the noun) with V2 using an established sign for “interrupt” and V3 expressing the same idea but in a very iconic (possibly transparent way) with the use of a raised hand ‘to interject”.
V3	

Irregular

V1	Variant 1 is realised as “follow” + rule” (2 single signs) and is identical in form to V1 of “regular” but contrasted by incorporating negation in the way of a headshake. Additionally, the mouthing is aligned to the term so “irregular”. Evidence of an interpretation.
V2	V2 is an established sign that means “to deviate from” or “move away from” - some degree of iconicity. Realised as a single sign the mouthing is aligned to the term “irregular”.

Layout

V1	Layout elicited a higher number of variants, more than the majority of the terms. All of the variants evidence iconicity but in differing ways. This is probably because “layout’ is an individual thing and signers are differently motivated due to their own internal image of the layout of a text. Participants also said that while
V2	
V3	

	they may have a general sign for layout when talking generally, when referring to a specific text they might sign it in such a way that it reflects that particular layout. For example, a text that has 6 circles would mean that the sign would be realised using “circle” handshapes whereas 4 boxes might produce something that reflected that.Variant 7 might indicate some evidence of borrowing. The sign is produced differently from the others using an “L” handshape (Although this is L from many various manual alphabets in other signed languages is exists as a handshape in BSL too). All variants were realised as a single sign and the mouthing is aligned to the term “Layout”.
V4	
V5	
V6	
V7	
V8	

Linking Verb

V1	All participants expressed “linking” using the established sign (also used for ‘join’ and “connect’) for this term in BSL which works well in the context of ML. Additionally evidence of a loan translation “Link” + “Verb”

Manner (Adverb of)

V1	This variant is realised as “adverb” + “how?”. The first sign is identical in form to V7 which evidences part borrowing (English spelling using manual alphabet “AD” and part using an established sign “verb”). The choice of the second sign “how” is interesting and helpful and I think evidences an attempt at interpretation – the “how” element of the verb. Realised as two single signs with part of the first signed involving fingerspelling – the mouthing is aligned to the manual component and not the term.
V2	This variant uses an established sign for “behaviour”. Evidence of semantic broadening and polysemy.

Metaphor

V1	Variant 1 is a fairly established sign for this term in BSL and used outside the English language teaching context. The majority of participants shared this. There is, and congruent with the term itself, evidence of metaphorical iconicity, and suggests a “replacement” or “switching”. This sign conveys the idea of something being substituted for something else. Realised as a single sign, the mouthing is aligned to the term.
V2	Variant 2 is similar but evidences a different hand configuration but the same location and movement (although a slightly different plane/path of movement). This sign is a standard sign that means “to replace”. Evidence of semantic broadening from the standard ‘replace’. The mouthing is aligned to the term and realised as a single sign.
V3	Variant 3 evidences this term differently. Perhaps a more arbitrary sign and realised as one sign with the mouthing aligned to the term.

Modal Verb

V1	This variant is realised as two single signs. The second is one of the more popular variants for “verb” and the first is a sign that can be translated as the verb “to

	modify". I think there is some degree of iconic representation here albeit metaphorically and also some evidence of "interpretation". The mouthing is aligned to the term.
V2	V2 is articulated as two individual signs, the second of which is the same popular variant of "verb". The first sign is one that can be translated as "way" and is a single sign but with repetition of movement so is expressed as "different ways". I think there is some attempt here to interpret the meaning and the "modes" of different modals, expressing various things are the different "ways".

Noun

V1	V1 realises "noun" using an established sign for "name'. Essentially it works in the same way as "describe" does for "adjective" and evidences semantic broadening and polysemy. Realised as a single sign and the mouthing is aligned to the term.
V2	V2 does a similar thing but uses the established sign for "thing". Realised as a single sign and the mouthing is aligned to the term.
V3	V3 uses initialisation and the evidences borrowing using the letter "N". Note the tap repetition. The mouthing is aligned to the term.
V4	V4 builds on V1 but develops it by use of another morpheme "label". Evidence of semantic broadening but also interpretation with "name-label" (a noun is the name we attach to things). Morpheme because the blending of the two "signs" creates a compound. Mouthing is aligned to the term.

Object

V1	V1 uses a single sign "thing". Evidence of semantic broadening perhaps and I think this sign works well in the context of ML. Sign itself is arbitrary. Mouthing aligned to the term.
V2	V2 evidences a borrowing from English using OBJ. Mouthing is aligned to the term "object".

Paragraph

V1	All three variants evidence iconicity and serve as a good example of how different signers schematise things similarly to "layout". All three produce "paragraph" in similar ways (as sections with the neutral space and vertical positioning) indicating "on a document or monitor". All 3 are single signs and the mouthing is aligned to the term.
V2	
V3	

Past

V1	The first is a standard sign widely used in BSL in the general sense. In many signed languages in Europe, the past is expressed as being "behind" (and conversely the future as ahead). Evidence of iconicity. A single sign and the mouthing is aligned to the term.

V2	The second variant is perhaps more of a marker. It is widely used before the verb (verbs don't inflect for tense in BSL) but sometimes after to express the idea of an action being completed. I think the sign has some metaphorical iconicity and would have meaning for sign language users but perhaps not for those who don't know a signed language. A single sign and the mouthing is aligned to the term.

Perfect

V1	V1 evidences an established sign for "completed" or "finished". Evidence of semantic broadening / polysemy. A single sign and the mouthing is aligned to the term.
V2	V2 uses the "been" marker in BSL that we saw with "past". Arbitrary. A single sign and the mouthing is aligned to the term.
V3	V3 shows another marker common in BSL and is seen widely when users express the idea of something starting in the past and continuing to the present (one of the uses of the present perfect in English) and I would argue that this it is equivalent to the auxiliary verb "have/has" in English when talking about this usage of the present perfect. Some attempt at interpretation? A single sign and the mouthing is aligned to the term.
V4	V4 uses a sign (first of 2) seen for quite a few other terms in this data (dependent, conditional, concrete). Realised using 2 signs (2nd sign is "time") the mouthing is "perfect time".
V5	V5 uses an established sign for "perfect" from the resources of BSL but this is per its other meaning of "flawless". It is evidence of semantic broadening but I'm not sure about polysemy. The sign is not contextual and would be confusing to learners. If a hearing learner were to ask what the label "perfect" means it would be made clear that we are not saying that the sentence is "flawless".

Personification

V1	V1 uses two signs. The first is "person" and the second sign expresses the idea of "transferring" or "replacing". Some evidence of metaphorical iconicity and interpretation. The signer is trying to convey that we are transferring "person" onto something else. Mouthing is aligned to the term.
V2	V2 uses two signs also. The first is "same" and the second is "person'. Are they trying to convey "same as a person" meaning - to attribute the idea of being a "person" or having a "personal quality" to something? Evidence of an attempt at interpretation. Mouthing is aligned to the term.
V3	V3 uses two signs. The second is "person". The first is actually used as a possessive determiner in BSL and the location (not the signer or towards the perceiver but to a 3rd space) indicates it's not "mine" or "yours" but more so "theirs". Some attempt at interpretation. Mouthing is aligned to the term.

V4	V4 is two signs. The first is “person” and the second is a sign that can be “to absorb” or “to become part of”. Some evidence of interpretation and perhaps metaphorical iconicity. Mouthing is aligned to the term.
V5	V5 uses person but the signer refers to the self. It is realised as a single sign. Mouthing is aligned to the term.
V6	V6 is two signs. The first is “to give” or “award” or “attribute” and the second is “person’ Here we get the sense of an interpretation – to give something a personal quality. Mouthing is aligned to the term.

Phrasal Verb

V1	V1 is essentially a loan translation using two signs “phrase” (produced as “words”) and “verb”. Mouthing is aligned to the term.
V2	V2 uses two signs, the first is a sign observed in V1 for “compound” for “phrase” meaning a “bringing together” and then the sign “verb”. Some evidence at an interpretation, a verb that “brings together” a particle and a verb” as a “phrase”? Mouthing is aligned to the term.
V3	V3 is another loan translation and similar to V1 but there is contrasts across the parameters with “phrase” being realised using a variant also identified for “speech marks”. Mouthing is aligned to the terms, realised as two signs “Phrase” and “verb”.
V4	V4 uses two signs, the first we have seen before with “Affix” (V1) and expresses this as “two words” coming together (the particle and the verb) and the second sign is “verb”. Mouthing aligned to the term. Some clear evidence of interpretation and iconicity.
V5	Here there are two signs - the first is “verb” but not the most common variant seen in the data and there is evidence of borrowing / iconicity using a V handshape for “verb”. The second sign is “sentence”. Mouthing is “verb” only and not aligned to the term in full.

Plural

V1	V1 evidences iconicity and the idea of there being more than 1. Mouthing aligned to the term and realised as a single sign.
V2	V2 builds on V1 (which uses only one articulator) by using both articulators and evidences many or multiple. Evidence of iconicity. Then, we have evidence of borrowing by the use of the letter “S”. The mouthing is aligned to the term.
V3	V3 uses 2 signs. The first is “add” and the second is “S” evidences borrowing and interpretation. Here the signer is expressing that plural means to “add S”. The mouthing is aligned to the term.

V4	V4 is similar to V1 but extends the movement into something else that expresses the idea of “fitting into something”. Some evidence of iconicity. The mouthing is aligned to the term.
V5	V5 is a borrowing using the letters “PL”. This seems to follow the fingerspelling rules laid out by Sutton-Spence and Woll. Mouthing is aligned to the term.

Possessive

V1	This variant articulates “possessive’ using an established sign (or signs) for “my/mine” and “your/yours”. It is difficult to determine whether or not it is two signs or one sign with a continuous movement. Certainly there are two morphemes and it would probably constitute a compound. Evidence of iconicity and also interpretation. Mouthing is aligned to the term.
V2	V2 uses a sign that can be translated as “to possess” (but possibly also “to borrow”) but the mouthing is clearly “possessive” and the articulation is realised as a single sign.

Prefix

V1	Variant 1 realises “prefix” in a very visual way and uses the same approach as for “Affix”. One articulator represents the root “word” (using the sign for “word”) and the other moves to the left (from the perspective of the perceiver) to denote a word/morpheme that is attached to the left of the root word. Iconicity and interpretation evident. The mouthing is aligned to the term. Anatomically it looks a tad awkward though as one hand crosses the other. A single sign.
V2	V2 is arbitrary but signers of BSL know that this sign can mean ‘primary” or “first” or “before” and so there is some evidence of interpretation. The mouthing is aligned to the term. A single sign.
V3	V3 works in the same way as V1 but here the arms do not cross and it is realised in a way that looks anatomically easier. The mouthing is aligned to the term. A single sign.

Preposition

V1	V1 uses a sign that is used in BSL for “place” or “to be situated”. Some evidence of interpretation and some iconic representation also. Mouthing is aligned to the term and realised as a single sign.
V2	V2 is completely arbitrary. Mouthing is aligned to the term and it is realised as a single sign. The mouthing only contributes to the meaning.
V3	V3 is also arbitrary. It might carry meaning for something else “to show” but does not lead us to guess the meaning of “preposition”. Mouthing is aligned to the term (and again perhaps the only indicator as in V3).

V4	V4 is realised as 4 single signs and includes a borrowing / initialisation using the letter “P” with the mouthing “preposition”. This is followed by three other signs “Where?” “Over” & “Under”. This is evidence of an interpretation / explanation of the meaning.
V5	V5 uses a sign already seen for “Article” (V2) meaning “small word”. THe mouthing is aligned to the term and the term is realised as a single sign.

Present

V1	All participants used the established sign in BSL for “present” (also meaning “now”). I don’t think this is semantic expansion – the sign is standing for what it means in the context of ML and the general sense. Realised as a single sign, the mouthing is aligned to the term. There is some evidence of iconicity I feel but this depends on the perceiver.

Pronoun

V1	V1 evidences iconicity, semantic expansion and interpretation. Realised as two sign signs “replace” / “swap” and “noun”, the mouthing is aligned to the term. The first sign demonstrates the metaphorical iconicity “the replacing” but also simultaneously the meaning – pronouns stand in place of the noun. “Noun” is realised using the most common “variant”.
V2	V2 does exactly the same thing as V1 but uses an alternative way to express “replace’ using a different handshape location, and plane of movement.
V3	V3 is a borrowing from English using the letters “PN” – adhering to the spelling convention identified by Sutton-Spence & Woll. The mouthing is aligned to the term.
V4	V4 is realised as two singles signs and the mouthing is aligned to the term. The first sign is “person” and the second sign is ‘noun”. I think here the participant/s were expressing “personal pronoun” rather than the more general “pronoun’.

Proper Noun

V1	V1 uses a sign that is used for “capital” (letter) - it is produced using the C handshape but not referring to this particular letter but because anatomically it is the easiest handshape to convey the idea of an uppercase letter (conversely, “common noun” was realised as a “small” letter). There is also the second sign “noun”. The mouthing is aligned to the term. Evidence of interpretation – a useful way to convey “proper noun”.
V2	Both V2 & V3 are realised using two signs “proper” and “noun” although “proper” contrasts across the parameters. However, both are referring to proper as “correct/right” and “perfect” respectively and evidences an expansion beyond the original meaning of these signs and is not contextual for ML. The mouthing for both is aligned to the term.
V3	

Punctuation

V1 V2	V1 & V2 are somewhat arbitrary but there is evidence of borrowing as the handshape resembles a "P but there are other things going on – a movement and a flick respectively. The mouthing is aligned to the term.
V3	V3 uses three quick signs in succession and they are all fairly transparent, a full stop, a comma and an exclamation mark combined with the mouthing, related to the term and not the individual marks – "punctuation". Also, evidence of interpretation.

Question Mark

V1 V2	These two ways of realising this term provides some evidence that perhaps even with signs that can be transparent, there is variation. They are quite similar but there is a handshape contrast between the two. V1 traces the shape of the mark with the index finger while V2 uses the handshape used for the verb "to ask" in BSL (index finger and thumb having contact).

Regular

V1	V1 expresses "regular' using two signs "follow" + "rule" evidencing an interpretation. The mouthing is aligned to the term "regular". This sign is contextual.
V2	V2 uses a single sign that is also used as "standard" or "uniform" and again the mouthing is aligned to the term. This is also contextual. There is evidence of some degree of iconicity and would carry meaning for sign language users. Using an established sign for "standard"
V3	V2 uses an established sign in BSL that means "regularly" or "regular" in the context of being frequent. Evidences semantic broadening but in a way that renders the sign out of context. A single sign, the mouthing is aligned to the term.

Additional Comments

How this term was realised in BSL had particular interest for me because it was thinking about how we might express "regular" that sparked the idea for exploring how metalanguage is expressed. It was validating to see that as well as expressing "regular" using the same sign that we do in BSL for "regular/regularly" (meaning frequent) there were a few participants who had alternatives that put the meaning of "regular" as it pertains to grammar in the right context. In the original raw data, prior to the presenters recreating it, one participant initially signed "regular' using the sign for "frequent" but then paused and changed her mind and said, sorry this is about following the rule. And offered an alternative as per V1, the same sign that I use. A handful of other participants used "follow"+"rule" also – and this became a discussion point in phase 2. I think it would be preferable to have a sign that is completely arbitrary than a sign that is not contextual. Something for the discussion chapter.

Semi Colon

V1 V2	In a similar way to question mark there was a very slight contrast between the two signs in terms of the hand configuration but essentially this sign is iconic and can possibly be considered transparent.

Sentence

V1 V2 V3	V1, V2 & V3 are produced quite similarly but there is a hand configuration contrast for each which is why they were identified as alternatives/variants. All convey the idea of a "line" of sorts evidencing iconicity. Realised as a single sign and the mouthing is aligned to the term.
V4	V4 expands on V1 and produces sentence in the same way. After this however, there is a second sign "full stop" added at the end of the line "sentence". Evidence of interpretation also?
V5	V5 evidences borrowing by use of the letter "S" which then develops further into a "line" but the curled pinkie fingers still indicate the "S" even when they cease contact with each other.
V6	V6 builds on V1 & V4 to take the idea of a sentence even further. It begins with the handshape "C" but this refers to the idea of a "Capital letter" and then moves into the idea of a line followed by a full stop. Iconic, clever and evidence of interpretation.

Simile

V1	V1 uses a single sign that is also used for the verb "to compare" or "comparison". Semantic broadening / polysemy. Mouthing is aligned to the term.
V2	V2 uses a single sign recognised in BSL as the adjective "similar". Again, semantic broadening / polysemy.
V3	V3 evidences borrowing from English using an established sign "like" but then the spelling "AS". The mouthing is not aligned to the term but to the manual components "Like" + "AS". Also evidence of interpretation.
V4	V4 offers an alternative along the lines of V2 but is smaller.

Simple (Sentence/Past)

V1	Many participants used an established sign for "simple" in BSL but one that also means "easy". I'm undecided as to whether or not it might be out of context. I don't think it is evidence of semantic broadening and might simply be a loan translation. A single sign and the mouthing is aligned to the term.
V2	A small number of participants used another sign in BSL which means "basic" (it also has a number of other unrelated meanings, "establish", "base", "foundation" etc. A single sign and the mouthing is aligned to the term.

Singular

V1	V1 uses an established sign for “single” and is reasonably iconic but the movement with splayed fingers might be a bit more arbitrary to non-signers. A single sign and the mouthing is aligned to the term.
V2	V2 is similar but more iconic and could be considered transparent. This is an example of how context can also determine transparency – it could be seen as “one” and not necessarily “singular”

Speech Marks

V1	Transparent. However, it could be seen as “quote” but of course “speech marks” punctuate “quotes”. All participants realised this in the same way. Mouthing aligned with the term. It would be interesting to know if this would be different had the written stimuli said “quotation marks” or “inverted commas”. Does the written stimuli influence the mouthing? A minor concern maybe?

Stative Verb

V1	An interesting one. This was offered by one participant, an interpreter but interviewed as a teacher and like me as a dual professional role. Also has a doctorate degree and is a linguist. This sign is difficult to translate into English but can simply mean “there” or perhaps “being”. I liked this. Initial thoughts were that it is arbitrary but perhaps some metaphorical iconicity? Mouthing aligned to the term.
V2	This sign means ‘stay” in BSL. Evidence of semantic broadening but some possible metaphorical iconicity too. It is perhaps not contextual but still might indicate a fixed position or lack of movement. States of being verbs (be, think, know, sense) are not actions and this is perhaps what this variant is working towards.
Additional Comments This term elicited very few responses. I think participants found it a difficult one to convey. Many said that they would just spell it.	

Subject

V1	Subject is expressed using an established sign in BSL that means “subject” in the context of “topic” (what we are talking about / studying / theme etc). Semantic broadening and polysemy. Mouthing is aligned to the term. A single sign. Not sure if this is contextual.
V2	Expressed as “SBJ” this is a borrowing from English, mouthing is aligned to the term.
V3	This variant uses an established sign that means “important” in BSL. Semantic broadening. Not sure if it is entirely contextual. Certainly homonymous with important but polysemy? Not sure if the terms are quite related.

V4	An interesting one. Here the participant showed “subject” but also wanted to use it with “object”. The two signs are identical in form except for a contrast in the location parameter. Subject is closer to the signer and object is further. I think there is some evidence of metaphorical iconicity with the idea of subject being aligned to the signer (agent?) and the object being further away (patient?). The signer is thinking about syntactic roles and aligning them with semantic roles? Mouthing is aligned to the term.

Suffix

V1	Like Affix and Prefix, suffix is expressed in a very clear visual way that evidences iconicity and interpretation. Mouthing is aligned to the term. In this instance, many teachers chose not to use the normal BSL convention to allow the viewer to re-position (so when signing “east” the signer would normally use left and the viewer would reverse this). Perhaps this is the exception for the context of teaching.
V2	This sign is arbitrary but users of BSL might recognise it as “end” or “final” and I think here there is some attempt at interpretation in that a suffix is added to the “end” of the root word / stem.

Superlative Adjective

V1	All three variants are expressed using two signs, the second of which is “adjective” and the first contrasted but had a similar theme – of something being the biggest or the “maximum” (V2). Evidence of metaphorical iconicity. Mouthing is aligned to the term exactly.
V2	
V3	

Synonym

V1	V1 works in exactly the same way as “Antonym” with “opposite” being substituted for “same”. Two single signs evidencing an interpretation of the meaning. The mouthing is aligned to the term.
V2	V2 uses the sign “same” only with the mouthing “synonym”.

Tense

V1	V1 uses a sign that could best described as a marker – connecting the past to the present (and used in a similar way that “have” & “has” as an auxiliary is used to connect the past to the present in the present perfect). Realised as a single sign, the mouthing is aligned to the term “tense”.
V2	V2 builds on V1 and the single movement indicates the past (starting from the shoulder), present (passing past the body) and future (moving in front of the signer). The mouthing is aligned to the term.
V3	V3 is most certainly an interpretation. One of only 2 variants to realise a term using 4 single signs. These were “Time” + “Past” + “Present” + “Future”. The mouthing is not aligned to the term but to each manual sign produced. It seems that terms that are more than two signs don’t show an alignment between the mouthing and the term as this would be too difficult.

V4	V4 takes the same approach as V2 but uses a different hand configuration but the same location and movement parameters indicating three sections of time (past, present & future). The mouthing is aligned to the term.

Time

V1	All participants refer to time pointing to the wrist as per a common way to express this in BSL. Note the slightly different hand configurations (index finger Variant 1 and flat palm Variant 2). This is metaphorical iconicity in that we are referring to the past, present and future not "time" as in 2pm etc. A single sign the mouthing is aligned to the term for both variants.
V2	

Verb

V1	One popular variant for this term is an established sign that is also used for "action" and "work". Semantic broadening / polysemy.
V2	Here there is some evidence of iconicity and perhaps borrowing by use of the "V" handshape. Mouthing is aligned to the term.
V3	This variant is a borrowing using the letters "VB" and the mouthing is aligned to the term.

Vowel

V1	Participants were unanimous in expressing "vowel" by referring quickly to AEIOU as a single sign. This is also evidence of interpretation and borrowing.

APPENDIX five

LIST OF TERMS WITH NUMBER OF VARIANTS

Term	Number of Variants
Apostrophe	1
Brackets	1
Colon	1
Comma	1
Connective	1
Direct (object)	1
Exclamation Mark	1
Full stop	1
Hyphen	1
Independent (clause)	1
Indirect Object	1
Intensifier	1
Linking (verb)	1
Present (tense)	1
Simple (sentence / past / present / future)	1
Speech Marks	1
Vowel	1
Antonym	2
Collective (noun)	2
Collocation	2
Conjunction	2
Ellipsis	2
Homonym	2
Imperative (verb)	2
Irregular	2
Manner (adverb of)	2
Modal (verb)	2
Object (grammatical)	2
Past (tense)	2
Possessive	2
Question Mark	2
Semi-colon	2
Singular	2

Stative (Verb)	2
Suffix	2
Synonym	2
Time (adverb / preposition of)	2
1st / 2nd / 3rd person	3
Affix	3
Complex (sentence)	3
Compound (sentence)	3
Consonant	3
Continuous (tense)	3
Dependent (clause)	3
Future (tense)	3
Interjection	3
Metaphor	3
Paragraph	3
Prefix	3
Proper (noun)	3
Punctuation	3
Regular	3
Superlative (Adjective)	3
Verb	3
Clause	4
Comparative (Adjective)	4
Countable (noun)	4
Demonstrative	4
Determiner	4
Helping (verb)	4
Idiom	4
Noun	4
Pronoun	4
Simile	4
Subject (grammatical)	4
Tense	4
Alliteration	5
Article	5
Common (noun)	5
Contraction	5
Definite (Article)	5
Degree (adverb of)	5
Dynamic (verb)	5
Grammar	5
Indefinite Article	5

Perfect (tense)	5
Phrasal Verb	5
Plural	5
Preposition	5
Concrete (noun)	6
Personification	6
Sentence	6
Adjective	7
Adverb	8
Conditional	8
Layout (of a text)	8
Abstract	10
Total number of variants	**280**

APPENDIX 6

A Language for the Eye

(Translation of BSL into English by Dorothy Miles)

Hold a tree in the palm of your hand,

or topple it with a crash.

Sail a boat on finger waves,

or sink it with a splash.

From your fingertips see a frog leap,

at a passing butterfly.

The word becomes the picture in this language for the eye.

Follow the sun from rise to set,

or bounce it like a ball.

Catch a fish in a fishing net,

or swallow it, bones and all.

Make traffic scurry, or airplanes fly,

and people meet and part.

The word becomes the action in this language of the heart.

APPENDIX 7

Variants with English mouthing not aligned to the term

Adverb (V2)	VERB-ADD
Adverb (V3)	VERB-ADD
Adverb (V8)	VERB-LY
Article (V1)	A/AN/THE
Comparative Adjective (V2)	MORE/ER
Conditional (V2)	WILL
Conditional (V4)	IF
Consonant (V2)	VOWEL-OTHERS
Continuous (V3)	ING
Definite Article (V5)	THE
Demonstrative (V1)	THIS/THAT/THESE/THOSE
Dependent Clause	COMMA
Helping Verb (V3)	VERB-WORD
Homonym (V2)	LOOK-SAME
Indefinite Article (V5)	A/AN
Adverb of Manner (V1)	ADVERB HOW
Phrasal Verb (V5)	VERB
Preposition (V4)	PREPOSITION + “WHERE?” OVER+UNDER
Time (V3)	TIME+PAST+PRESENT-FUTURE

Adverb of Degree (V3)	No mouthing. Use of facial expression congruent with the manual component strength
Helping Verb (V2)	HELPING is not mouthed but instead there is a mild intensity in facial expression. VERB is mouthed however.
Helping Verb (V3)	First sign ADD is not mouthed but VERB is mouthed.

Appendix 8

PHASE 2 (Notes on participants reflections)

Interview 1 (3 interpreters and 2 CSWs)

I was really surprised at the degree of variation. Perhaps thinking about it I shouldn't be but I was. It's more complex than I thought.
I think that the arbitrary verses iconic signs was interesting. It is not a simple black and white thing. Iconic representation is visually motivated but there is often a different focus.
Some of the variants are variations of the same theme.
The signs for abstract were all variations of something that we could describe as intangible.
I was wondering about borrowing. An exclamation mark is a borrowing from English text – does that count as a borrowing then?
Those of us who work in education are working under a lot of pressure, with the student and the staff, so if there was a situation where I knew there wasn't a sign I would make something up but I would do so in a way that had some reference to the written representation of that sign. Like A for alliteration, or A for abstract that happens quite a lot. I know the deaf community do that a lot, using initialisation.
I was thinking about language evolution and how things become established. I think of course we need a critical mass of people conversing about this outside of the classroom so this is probably why we don't have established signs for some of these terms. We need more people talking about these terms for it to be dispersed. These terms might not be talked about with hearing people either BUT these terms have been published in books and on the internet and within the deaf community – they haven't.
Is it bad that there is variation in sign language?
One of the signs for adjective was strange! I have never seen that before, it was very arbitrary. Where did that come from? (this was a school specific Oaklodge school sign).
One sign for metaphor was strange, I haven't seen that before (V3).
The presenters did a great job of creating the signs.

I think the sign for 1st Person/2nd Person/3rd person (talks about variant 3) was really good. It was represented very clearly when the presenter referred to himself for the first person etc.
I've just realised something else as well. In exams students are not questioned about these terms, for example, a student won't be asked the question "what is a pronoun" but if it was a science exam then they would be question on the terms – there would be a question for example "what is mass" or "explain density" – if you look at the science signs on the BSL glossary project they have created themes. We don't ask for a definition of what these terms are, we expect people to know them. So, in science we have a sign, we explain it to the kids and use it again and again but the same thing doesn't happen. It might get explained once. So the education process is different. I think there is a pressure to have signs that are close to English, so maybe more borrowing.
With regard to signs in context, it depends on the students you are working with. For example, "regular" as frequency and "regular" as "standard" I think need to be different.
I really liked the sign for idiom (V2) – I thought that worked really well.
As interpreters, often the language is novel all round, I think it's important to still fingerspell and explain the meaning as well as using the sign. Depends on the context that it is being used.
There was one sign for plural that was "add" + "S" (V3) and I was wondering about how effective that is because we don't always add s to make the plural.
Also, we add s to the present tense of verbs in the 3rd person singular so I think that for plural that doesn't work.
I didn't like the sign for idiom (V3) "underlying meaning". I think idiomatic means personal to a certain person, right? Oh wait, I'm getting confused with idiosyncratic, ignore me.
I think it's really valuable to have this resource. I think a lot of CSWs and interpreters working in education would appreciate these. I know the signs for maths and science terms developed by the glossary project were really valued among interpreters working in education.
I think this project you have done can be an ongoing thing right? You can build on it further I'm sure.
I think those signs that work well will become popular and take off and the ones that are not popular won't.
I wonder if signs are easier if the concept exists also in BSL. I mean we don't have articles in BSL or prepositions in the same way and so I wonder if that's why a lot of the signs were similar indicating "small word". Verbs and nouns exist in BSL so a bit easier.
I think it's difficult to talk about things in a language that don't exist in that language. It's like gendered languages and it being a bit odd for English speakers.

I think our school had tried to develop some signs and there is scope to change some of what we are using based on this study. I think it would be beneficial to discuss some things more. It's been really interesting talking about this, I don't think we have done that enough.

Interview 2
(3 hearing teachers)

There was a lot of variation in the signs for sure.
There is a lot of idiosyncrasy involved in some of the signs, signs that seem personal to certain individuals.
I think variation is really healthy and a normal part of language.
With regard to signs in context, I think the sign for perfect (V5) is not contextual.
I would not use that. I think how we explain the concept will influence the sign you use too.
In terms of context, yes, I think it matters and matters very much. However, the consideration has got to be what the student is bringing to the interaction. I haven't used that sign (V5) for perfect but I can imagine if I was working with a student who was of a more advanced standard of English and understood the concept of "perfect" and what it meant in English, and understood that this sign (V5) is a convenient label and a gloss of the English word then I might consider using it. I may feel that it's ok but it matters yes, it's not only a linguistic consideration but also the context.
I was surprised by how strong my feelings were about some of the variants. I really liked the signs where the meaning seemed to be clear in the way that they were presented (not just in regards to iconicity).
I don't think it really matters if some of the signs are arbitrary! We have arbitrary signs in BSL. Of course, everyone has to agree an understanding of the meaning.
Yes, I think you just get some general agreement, so it doesn't matter .
I do think some kind of consistency and agreement would be useful moving forward. It will make teaching metalanguage easier. So I think this project is really important.
Talking about the sign that was "verb" + ly" was interesting. I can totally see where the person who provided that sign was coming from but not all adverbs end with ly.
Didn't like the signs where the lip pattern read 'verb+add" as I think we need to be using the technical language on the lip pattern. I did like variant 3- Describe + verb but again needs to read on lip pattern as adverb

I think iconicity matters if the iconicity is misplaced. Number 3 for "Perfect" was interesting. There was something in there that didn't quite describe the concept and described a different concept.
A lot of English metalanguage English speakers find difficult! The labels are quite difficult.
I really liked the one sign that was "Subject-Object" - the same sign close to the body and further away. I'm going to use that, I was thinking why have I never thought of that. I think it is easier than fingerspelling.
I liked that too although that sign does imply that the subject is oneself. Beautifully done. But I wouldn't use it.
I have one that would be nice to look at together which was modal verb. It's hard. I like the signs that was about "different ways" (V2) but didn't quite capture it. It would be nice to get more variants for this. Modal verbs is not something you can capture in one sign I don't think.
With Alliteration it's the repetition of movement that gives the concept which I really liked.
I don't think that the signs are enough. We can't just use a sign and then expect everyone to understand the meaning. We need a class, to talk about it and embed the concept and then use a sign as a referent.
Yes, but we don't want to have to do a complete explanation of the meaning of the term every time we refer to it.
So this study jumps ahead a bit - we also need to have a study that explores how we teach the meaning of these terms.
I think one thing I have noticed is that a lot of teachers don't have the metalanguage themselves! And that affects access to materials.
I think it would be great to have definitions same as the glossary project does. I think this is a next step. It would be great to have some of these as part of a glossary.
I think when we add definitions of these terms then the resource will become more useful to more people. I think it would be good to have a comments section – I tried this and my class got confused etc. I think we need to have feedback about how the signs went down in class - I think that would be very useful.
I liked TESLU and I can see the potential for that space! It seems interactive.
I think it would be really great for the members of TESLU to get to know each other more.
I think this data is great and there is a lot of variation but I think we need to perhaps eliminate some of them as we move towards more a standard. We need to see if we can find funding for definitions and get people to discuss more about what signs they prefer.

Interview 3

(3 hearing teachers)

I think it's really important to have some agreed referents for these terms so I think it's great what you are doing. Children move schools, and so do teachers so having some standard is good.
I think you should make this data accessible to schools. People can watch it and perhaps some signs will take off.
The sign for contraction – we have always signed contraction like this (V4) but I really liked this sign (V1) as the two words coming together with the apostrophe was great. Looking back, I'm thinking, why didn't we use that!
Yes, I like variant 1 with the addition of the apostrophe. I wonder if the use of additional signs helps the learners to key into the linguistic aspect and perhaps this is dropped later as competency is gained.
I liked variant 2 for "Affix" – it was clear and representational of its meaning
Article- some interesting signs for these, variant 4-liked this as it was showing the main word with big open span of fingers and then the article being placed next to it which was a smaller span of fingers. I liked variant 5 too, showing that the article is the 'thing'
Continuous- did not like variant 3 just adding -ing
Degree of adverb- Variant 1 and 2 I think are the signs that clearly represent the meaning most have a similar meaning.
Dependent Clause- I preferred variant 2
Full stop/exclamation/comma/speech marks- there were no variants which I had expected.
Grammar- variant 2- liked the 'structure' sign. Variant 1- commonly seen this.
Homonym- Variant 2- don't like it when English lip pattern doesn't reflect the word but the meaning. I wonder if this helps/impedes deaf learners?
Idiom - liked the variants 3 and 4 that had hidden/underlying meaning.
V1 for "contraction" I worked well too, especially for younger deaf children as it was so visual. Maybe other variants with older learners worked well too but that variant with the apostrophe was clever.
I really liked proper noun and common noun being used as large letter and small letter
Comparative Adjective- Variant 1 I preferred as it is following the English.
Complex sentence- variant 2 didn't make sense and the only one that didn't add 'sentence' at the end.

Conditional - mostly these variants are around if/possibly. I variant 3, I liked the sign depend/rely - variant 8 was like following (its condition to do this first)
Clause- Most I found quite similar but variant 4 I didn't like, looks too much like brackets or parentheses
I liked "seeing noun" for "concrete"
I liked V3 for Idiom (underlying meaning) – I thought that worked well.
Pronoun I liked. There were many I didn't have a sign for. I liked V2 (Swap the noun)
Are we making it difficult for ourselves by insisting that it has to be visual? Can we not have some signs that we all accept that are not visual? Some are too abstract to be represented visually.
I think it would be better to have a sign that is arbitrary than one that is not contextual.
For me, I feel that the visual element is important as it's easier I think for young children to attach meaning to things that are visual.
When we learn a different language we have a foundation, we already know what an idiom is in English and what that might look like in another language - we have a base to go from, but for sign language users, I don't think they learn metalanguage in BSL or what some of things mean. Metalanguage is quite abstract I think.
I think ML was not taught when I was at school but now it's coming back and a big part of education.
I would be interested to know if some of the signs used might with certain learners and others with other learners.
Watching some of the clips, I noticed some of the signs the mouthing wasn't the same as the term but was linked to what it meant in English. I think it's important that the mouthing should be the same as the terms because when we teach the term it is more recognisable with the correct mouthing for the term.
I didn't like the signs that were initialisation. C for consonant, A for article. I think we can do better than that. There weren't many but still...
I didn't like the sign "normal" for common noun. It didn't carry the meaning.
I think for some people initialisation of abbreviations are just short cuts and a means to an end though sometimes.
Our signs might evolve and change depending on who we are working with.
I noticed that some signs were quite visual but other signs borrowed from English.

Yes, and some had both I noticed.
I didn't mind the sign for "subject" which was an established sign for "topic" so much but I wouldn't use this (V5) for "perfect". I think I would use "regular" meaning frequent because I don't have an alternative.
I didn't like the sign (V1) for perfect. I liked V3 though as it conveyed the idea of an action continuing into the present (present perfect).
Yes, the meaning of "perfect" meaning excellent is not appropriate for the language context.
Layout of text - all variants were clear and represented meaning (except Variant 7)
Modal Verb- variant 1- liked this one
Paragraph- all variants clear 1 and 3 I prefer.
Perfect Tense-variant 2- looked like 'been' so maybe confusing with past tense. *Variant 3-most clear in terms of representing meaning.*
Noun-all signs that incorporate "noun" showed meaning of noun using the sign "name". This worked well.
With regard to prepositions- Variant 2 and 5- I didn't like this one as too abstract, showing 'small'. Variant 4 is perhaps an explanation not a sign. Variant 3 was ok, 'to show'
Plurals – Variant 1- liked how this started with 1 finger and then showed multiples. Variant 2- two hands with the 's' added was good too.
Personification- Variant 1- liked this as its clear. Variant 4 & 6 -liked these ones for clarity of meaning.
I liked V1 for "perfect" which was using an established sign for "finished" or completed. I think that was the best one. The mouthing was linked to the term which helped too.
I liked the sign for "conditional" using the sign for "dependent" I thought that worked well.
I loved consonant – not the vowels! It was an explanation.
Irregular- both variants work, I do like the variant one of not following rules with negation.
Alliteration was clever, the signs were all so different but it was interesting how the repeating movement tried to capture it.
I think the variant for alliteration (V4) "sound the same" might not work for deaf learners.

1st/2nd/3rd person- 3rd Variant- really liked how they signed 'first' and then person was on themselves. Second person sign demonstrated 2nd person (in the signing spatial field) and third person was someone further afield. Much more definitive in its sign.
Variant 7 of abstract, I really liked this one
Pronoun – Variant 3- used initialisation which I don't like. Variant 2 – I liked this one reflecting the concept of a substitution.
Sentence- Variant 4 and 6 liked the addition of sign followed by the full stop
Simile- I don't like variant 3- don't like this sign because of lip pattern not using technical term.
Punctuation- Variant 1- liked this sign going across the body implying that its more than one thing in one place (like Variant 2).
Tense – variant 2- very clear. Variant 3 was too longwinded - 4 signs!
I think as a peripatetic teacher, it needs to be disseminated (the data) to be used as a resource.
Watching these clips, definitely don't like initialisation for the use of signs. Lip pattern must reflect the technical language.
I think developing a glossary of signs for these things would be really good.
Before you approached us about being involved in this project, we were talking about this stuff and how it would be good to do something together. So this was great, and getting us together to discuss this topic. I think we need to think about the ways that we refer to these terms and be reflective. Being involved in this project has made me really think about things.

Interview 4
(2 deaf teachers 1 CSW)

I think this study that you have done is really important and we definitely need a resource of some kind.
I think the videos that were created are super, very clear and it's a great way to see what other teachers have contributed. The presenters were really good.
It has made me think more carefully about some of the signs that I have been using. There were some that I saw that I think were really good with ways of the term that I had not considered before. I shall definitely be using some of them from now on.

I particularly liked the sign for "Affix" (V2) it was very visual and was so clear, that's one that I will adopt I think.
I liked the sign for 1st/2nd/3rd Person – the third one I think – it was very clear and the way that the signer oriented 1st/2nd/3rd to himself, and then to the audience and then to a "3rd" person was really clever.
I liked "contraction" with the apostrophe, I have been signing this (shows V4) which is still quite visual and I like it but I like the first video more so I think I am going to use that one.
I think it's important that the signs we use are contextual yes, so I wouldn't use regular in that way meaning frequently. I've been using this (shows V2) but I quite liked the first video too "following the rule"
I think having a sign that isn't visual as long as we know what it means is ok. I think that is better than having a sign that is not contextual. So yeah, something more arbitrary than using "perfect" in the wrong way.
Yes, I wouldn't use "perfect" (V5) like that, it doesn't make sense in the context of teaching English.
I think some signs for other meanings worked well though, like continuous and dependent.
I noticed that there were some signs where the mouthing was more linked to the English word and not the term. I don't think that works so well. I think it's better if the mouthing is linked to the term. The one for demonstrative was good in terms of the signs where he was signing this and that - and I think in terms of explaining what a demonstrative is it works well. But I think keeping the signs but making sure the mouthing is linked to the term we are talking about is important.
I noticed that there were a few signs that were the same for different terms. I saw the same sign for dependent being used for conditional, although talking about it that makes sense as the conditionals are all about something being dependent on something else. But there were signs for "small word" for article and also preposition. I'm not sure how helpful that is. I think we need proper signs for those things.
Just coming back to what you said (to another participant) about the mouthing, there was another example of that with conditional actually, can we see it? (shows the variants)*. Yes, so the sign for "conditional" but spelling "IF" was interesting. So there the mouthing was the same as the term, even though it was borrowing from English.*
I think it would be great if we could agree some signs and these can be standardised.
You can add more signs onto the website, the google classroom is a really good idea.

Interview 5
(3 deaf teachers)

I really enjoyed watching the videos. I really liked the presenters. It was very interesting to see the different variants for the same term. It really makes you think about the context.

I think getting people together to share their signs is a really good idea.
Yes, I mean, at our school some of the terms we just didn't have signs for and we just made them up. And the problem with that is, if the pupil or the teacher move to another school and then different signs are used it can be really confusing. So I think having some standard signs would be really beneficial.
Yes, I agree and I think it's really important that we think carefully about how we sign these terms and explain what they mean.
We don't have signs for these terms in my own native signed language either to be honest.
I think what I enjoyed about seeing these videos was getting another perspective and seeing how other teachers might sign something.
I was involved in the BSL glossary project devising signs for science terms for biology, the whole process was so interesting and I think the work that they are doing is so so valuable. And so I think that this project you are doing is also really great for English. I think it has the potential to become a great resource and can be developed further, it will make out lives as teachers so much easier!
I appreciate that some concepts are difficult to sign and we can have quite a few different ideas on how to sign things.
I think we need established signs for curriculum terms.
I don't think signs like "perfect" (V5) is suitable for the linguistic context. It doesn't carry the correct meaning. It just doesn't work in the teaching context. We don't want people thinking that one sentence is "better" than another haha.
Yes, like the sign for "force" in physics – we wouldn't use the sign "to force" (to oppress) would we. It wouldn't be appropriate.
Yes, I agree. I suppose we need to take steps to develop the signs. It would be great to get some agreed signs that we can definitely all use.
It's really important that the signs convey the right idea.
I really really liked the way that 1st /2nd/3rd person was expressed. When I saw it I thought, that's it! That's a great way to explain the concept in the way it is signed. It was really clear.
Yes! I agree, the placement and orientation were correct and meaningful. It is interesting because if we compare it with the other two variants, it wasn't that much of a change but this slight alteration to incorporate the location better made a lot of difference.
It's interesting isn't it. Signed Languages have evolved so much and it was once just the way that we communicate every day things with each other but now more and more deaf

people are involved in professions and we realise, we need signs for these subject specific terms. So, we need to increase the wealth of our language and pass that on, it's our legacy actually. We need to pass it to the next generation of sign language users to show hearing people that our language is really rich! But we need to find a way to allow that to happen and that's by establishing signs for these things. And it needs to be in collaboration with deaf people because we can't have hearing people doing it. We need to not be "advisors" but co-leading these things.
I just want to mention signs that are a bit more arbitrary, we might question a certain sign if there is no discernible meaning behind it - we don't question signs that are visual - but we accept them.
The sign for Alliteration that was use that looks like this (shows V2) – the problem was that is that for me this is assonance when it used the letter A which is a vowel.
Yes, but I think the A is not indicating the repetition of a vowel but more A for Alliteration.
I used this sign (shows V3 Alliteration) *.*
I really liked the sign for tense (V2) where the movement path when further ahead because I had previously used the sign "time" pointing to my wrist. I think this was very clear and shows the idea of the past, present and future in a very visual way, much better thant "time".
There were a lot of great signs that gave me something to think about. How do we decide which one to use?
I think this project is just to find out what we are using though. Maybe that can be the next step.
I think it's really important that we do learn about metalanguage. When I was growing up in (mentions her native country, an Eastern European nation) it was taught, our grammar is really complex though, compared to English I feel.
I remembered when we had the first interview and we talked about how we refer to metalanguage in the classroom, I said that as well as signs we have posters up around the classroom with these terms and I think that is really important that the terms in English are visible and visual and easy to see around learners.
I think we should definitely keep discussing these things and sharing our ideas about signs we use but I do think that at some future point it would be enormously helpful to have some consensus about what we use and we come together to make some decisions about that. Like the BSL glossary for science terms. I also think we need to have some videos with explanations of the terms but also examples of teaching the concept.
I think this is something we can do on the google classroom though, we can post examples of how we teach these terms there and share ideas.

Interview 6
(3 deaf teachers)

I was amazed at how many variations there were for some of the terms
Yes, although some of the differences were very small, like the handshape for time (index finger verses all fingers).
It's great that they are available for everyone to see on the google classroom.
I looked at the videos. There were some that surprised me! There were some where there didn't seem to be an explanation of what the term meant. There were others though that did seem to do this – explain the meaning.
Yes, but we can't explain things every time – I explain the meaning of the term when I teach it but we can't give a big explanation every time we refer to it after that.
Yes of course, that right.
The sign for subject (demonstrates V1) is a sign that I have been using but I now realise, just through being involved with this project and having to think about it, that it's not contextual and I much prefer the other sign (demonstrates V4) the one that uses subject + object (nearer and further away from the body). So I'm going to use that and I feel like I learned something new. Because this sign (V1) is really about a theme, it doesn't really feel right to me. It's just not the right context.
I really liked the signs that had that visual element.
The thing is, those signs work really well and are lovely I agree. But some terms don't lend themselves to visual representation so easily. I think some terms are a bit more abstract and so we just have to have a sign that is arbitrary. We already have signs like that in BSL and there is no explanation behind the sign or why it is like that. And I think that's fine! I don't think we need to insist on making sure every sign we have is "visual" or makes sense. I think it's perfectly acceptable to have some signs that have a strong visual connection and for other signs to deviate from that.
For those terms that can't be visual then we either have to create something and we all agree that this sign means something or we fingerspell it.
I liked the first video for "concrete noun" (V1) which indicated a noun that you could see. Rather than the others which signed concrete as in stone.
I didn't like proper and common noun with the big letter and small letter.
There were a number of signs that I haven't seen before that I thought were interesting and I think I might adopt. I have been teaching about idioms and idiomatic language and I did not have a sign for that and so I just fingerspelled it. However, I really liked this sign (shows V3 – "hidden + meaning") very much. It really made sense. It was made up of two signs "hidden" and "meaning". So that's one sign that I feel I will use.
I think "common noun" signed like this (V1) was the wrong context. And I didn't like "proper" being signed as "correct". So I think using signs that are contextual is really important.

I'm sorry I didn't like the sign for verb that was the V handshape (V2), I was surprised and hadn't seen that before I think there is a general established sign for verb like this (signs V1 – "action").
Antonym was good – those two signs "opposite meaning" I liked that. It explained the term.
I really liked the idea of explaining that "regular" is following the rule and "irregular" isn't - I think I will use that.
I liked the first video for "Ellipsis" but not the second. It didn't make sense to me. The first video was visual.
One sign that made me laugh was the sign for "adverb" "verb" + add" – - there were a few variations on that theme.
I liked the two signs for tense (V1&V2) indicating the past and present and future all in one movement. I found that useful and I think I would use that.
I liked "superlative adjective" (shows V1) It was visual and a nice idea. I didn't like the other one (V2) though but the first one I think I might use.
The sign that was used for personification (V1) was nice. That made sense.
The first video for metaphor (V1) is a fairly established sign so I was surprised at the second one "replace" - it's actually the same concept visually I suppose but the first one is fairly well known.
With regards to the signs in context, I think we have become so used to signing things in a certain way and we do so without thinking of the context, we get attached to the English word. So I think this project has helped us to think about what we are using. It's been helpful to reflect on my language use. I think it has presented an opportunity to break the habit of using, say 'regularly" for "regular verb" and think about how we might refer to the term in a way that is contextual and conveys the concept.
Yes. I'll admit before I have been using the sign "perfect" (V5) meaning excellent to talk about the perfect tenses. But now I think I'll change that to something else, probably the first video (V1).
For me it's important for a sign to have the right meaning. It doesn't need to be always visual but I don't think signs should be out of context, we would be better off creating another sign that is more arbitrary but we know its meaning.
I think this project is good and the variations have been really interesting but we need to think about having some standard signs for things. This way, in the future teachers can refer learners to a video showing the sign and we can use it too. So I really hope that as a result of this project, and these discussions, we can start to think about perhaps having some standard signs for these terms. It would be great to have a situation where the a learner at primary school, learners the sign for a given term and moves to a secondary school and the teachers are using the same sign there too. And it doesn't need to be taught again or they don't have to learn new signs.

Yes, I absolutely agree with you, that's really important.
Yes, I moved from one school to another and I had to change some of my signs which was difficult. So, having some agreed standard signs would be useful.
I'm not against variation. I think having different signs is healthy and fine and that's language. However, for technical language and subject specific signs I think having some agreed signs is better.
I think it's good that you had so many deaf teachers involved, well done.
I think it's a really valuable resource.
I think you really need to disseminate this information. It would be a shame for this to fall off the radar and people forget about it. It would be such a waste.
There must be more teaching of English to sign language users who were not involved in this study who would be interested to know about it.

Interview 7
(3 deaf teachers)

There were a lot of different signs for the terms, how do you decide which one to use? (I explain that it is simply to document at this stage and not up to me).
Not all the terms had different signs so I suppose that means you didn't get any alternatives? Like vowel for example, I saw that there was only one sign for that. Makes sense of course.
I liked the signs for Alliteration. All of them were quite good, although very different.
That (V1) was a sign we used at Oaklodge. We used to show the words on a poster with the same letter and we would point and say the sound is happening again and again and the sign developed from there, we all used that. We just used our common sense.
Yes, the movement was expressing the idea of something repeating.
I liked the sign for "conditional" (shows V3) indicating something "depending" on something. There was quite a few variations on that I noticed. Wow.
I liked the sign for "concrete" noun "to see" - I thought that made sense.
I liked the sign for "common" and "proper" noun as big letter and small letter. Yes, I quite liked that.
I laughed at "consonant" "not the vowels"
Yes, me too, that was funny.

I liked "contraction' (V1) as I have used this sign (shows V2) and the inclusion of the apostrophe was great.
Affix was good and very visual, more so the second video (V2) than the first.
I really liked the 3rd video (V3) for 1st/2nd/3rd person. I have previously signed it this way (shows V1) but having seen the other version I really like that. Orienting the sign to yourself for 1st person and second person to the person you are talking to etc is great. Much better.
I personally think it's very important for the signs to be contextual though. For example, using the sign for "perfect" (shows V5) isn't suitable and is very confusing for deaf learners. I think this is a priority for me and teaching the meaning of the term and using a sign that makes sense and relates to that meaning.
I absolutely agree, we need to model good language use to deaf learners and using signs that mean something else isn't helpful. So, for that example, we need to explain that "perfect" can mean excellent but then when we are talking about the "perfect" tenses explain that this word has another meaning and is different from "excellent".
Yes, for example I have seen in BSL people using the sign for "like" (the verb) when really, they mean to use the sign for "like" (alike / meaning similar). Or using the sign for "ready" for "already" which is something different.
I have seen some hearing teachers using signs that are just not contextual (I'm not just talking about ML). It really winds me up.
We definitely need to make sure that signs that we do have carry the right meaning and are contextual.
I think you definitely need to give some presentations to deaf teachers about this, not only the ones involved in the project as I think they would love to see this. I mean, it's been quite fun seeing the videos and seeing what is the same and what is different, deaf people love that haha. I'm involved with BATOD and the deaf teachers of the deaf network and you should definitely come and present at our conference next year.
I think this resource needs to be made available to deaf schools and units.
I think this needs to be developed further like the Scottish Sensory Centre, that's been fantastic and I think we should have a glossary for English terms too.
The presenters were really good I thought. Very clear. Good choice haha.

Interview 8
(2 deaf teachers / 1 CSW)

There were some signs that were quite easy for anyone to understand, the signs we use for punctuation.
I spotted signs that I use but I also saw quite a few that I really liked that I haven't used before. So, there are a few that I might start using.

There were some great examples that seemed really clear and I think I might adopt some of those.
It's good to see some of the signs that were visual, I'm thinking about how that helps the learners, particularly younger deaf learners.
Alliteration was interesting – it was interesting to see the different ways that the concept was represented.
When I first started out teaching, most of the other teachers were hearing and not good signers and they often used signs that were not contextual. And I think it's important that we do use signs that are contextual.
For example, the sign "perfect" - that's a good example. It doesn't make sense for English teaching.
I noticed the sign for "simile" - "like as" following the English.
My sister and I work in nearby schools with hearing impaired units – she is in the primary school and I am in the secondary school, it would be great if we had a situation where signs that are used in one setting are also used in another, it makes it easier if we are all using the same signs.
Yes, I think it is better for consistency
I think for me being involved with this project - what has been good about this – is having an opportunity to stop and reflect on language use.
Yes, I agree, I am the only deaf teacher in my area and I've not had an opportunity to discuss this before, the signs that we use for English terms, and I think we really need it.
The google classroom you set up, which I joined, is a really good idea for teachers and teaching assistants to work together on these issues. I'm going to encourage my boss to join also because I think it will be a great way to improve things in our school by being part of a network.
The deaf teachers of the deaf group have regular meetings and I think you should come and present at our next big meeting because it's a really great resource.
We can add more signs and contribute to things also.
I think this project has given us a kick that we needed to start thinking about this more because it's really important. It's been a great opportunity to collaborate with others.
I'm up here in Scotland, I think you should try and collaborate with the Scottish Sensory Centre and see if we can develop things further, they have got some great glossaries for science terms and this could be something you could do. This way teachers can look up terms and see how they can be signed in BSL. There's some great stuff for science and maths but nothing for English at the moment.

I need more time to review the signs and have another think about them – there's an awful lot to look at.
I think this will help me think about my teaching and the signs that I am using for these terms. It's important for our practice but also for deaf children in the future.