English as an Additional Language (EAL) for All: A Systematic Review of Research into Pedagogical Approaches to Teaching Learners with Special Educational Needs (SEN)

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DECLARATION

I hereby certify that this dissertation, which is 15115 words in length, has been composed by me, that it is the record of work carried out by me, it conforms to the University's GAP Policy, and that it has not been submitted in any previous application for a higher degree. This project was conducted by me at the University of St Andrews from February 2023 to August 2023 towards fulfilment of the requirements of the University of St Andrews for the degree of MSc TESOL under the supervision of Kirsty Duff.

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I agree to my anonymised dissertation being shared electronically with future TESOL students. YES/NO

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Abstract

Learning English is a world-wide ambition and need for many learners. With English being the current Lingua Franca and being learned widely, it is logical to assume that all English as an Additional Language (EAL) classrooms have learners with learning difficulties, either diagnosed or undiagnosed. China is no exception to this logic. This paper argues that teachers have the ability to positively impact the success of language learning among Special Educational Needs (SEN) learners by carefully considered use of techniques. In order to identify the techniques that have proved successful, a systematic review, using grounded theory as a data analysis tool, was implemented. 24 articles were identified after using transparent inclusion criteria, with only one of these articles originating from Greater China. After analysis of these articles, 11 techniques were identified and have been reflected upon. These techniques and their applicability to Communicative Language Teaching (CLT) classrooms was considered and it was established that many aligned, and could be used to better support learners with SEN in these classes. It was found that these techniques were similar to those already suggested for EAL classes, without specific consideration for learners with SEN, as well as used in non-EAL classrooms to support learners with SEN. The paper ends by reflecting upon further research opportunities.

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Chapter One: Introduction

Around the world, people are learning English – in formal classrooms, informal conversation classes and via self-study apps as well as in a number of other settings. Based on estimated data, in the UK there are 2.6 million and 700,000 people who have Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD) respectively (ADHD UK, n.d.; National Autistic Society, n.d.). It is also estimated that 10% of the UK population has dyslexia (British Dyslexia Association, n.d.). If we extrapolate these statistics, it is reasonable to assume there are significant numbers of people with these conditions currently learning English as an Additional Language (EAL) (Indrarathne, 2019, p.631). It has been argued that learning a second language is not appropriate, or in the best interests of these people (Kormos and Smith, 2012, p.xi; Schneider and Crombie, 2003, p.1). However, this paper will assert that without opportunities to learn English, these learners' future employment possibilities, academic achievement and convenient travel opportunities may be negatively impacted (Kormos and Smith, 2012, p.xi). The limitations of not learning English, compared to other additional languages, are more pronounced due to the nature of English as the Lingua Franca (Crystal, 2003). In direct opposition to the argument that learning a second language is detrimental and unnecessary, becoming bilingual has shown itself to be advantageous in SEN learners' first and second language development (Siegel, 2016, p.140). This paper, therefore, comes from a background of believing that we must support all learners, including those with dyslexia, ADHD and ASD to maximise their opportunities to learn English, engage with the global community and reach their potential. However, the additional demands on learners' time and effort to learn English caused by the global dominance of English may take time away from learning and practising other skills, including their first language, which are already

a significant challenge for learners with SEN (Kormos and Smith, 2012, p.62). Learners with SEN who have significant challenges learning English may be limited in some of their life choices, not by their effort or intelligence, but by the difficulties caused by their learning difficulty. This can be seen as morally questionable and shows the negatives of global English.

The three target disorders that will be focused on when considering how to support a diverse group of learners are dyslexia, a learning disorder, and ADHD and ASD, both neurological disorders. The three disorders can fit under the larger umbrella of Special Educational Needs (SEN). This term will be used throughout this paper. We can define SEN as related to a learner who demonstrates "a significantly greater difficulty in learning than the majority of his [sic] age" (DES, 1981, cited in Kormos and Smith, 2012, p.8). These SEN all come with challenges in relation to communication, social and cognitive development, making them significant in an educational setting. As those with the traits, but potentially without the formal diagnosis, will be considered for this study it is important to have a clear understanding of the definition and traits of each.

Dyslexia is one of the most recognised learning difficulties (Peer and Reid, 2016, p.4). Dyslexic learners have difficulties learning to read and write, while having no discernible difference in their IQ (Nijakowska, 2010, p.10; Siegel, 2016, p.137). The most comprehensive and workable definition of dyslexia comes from the International Dyslexic Association (IDA):

> "Dyslexic is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result

> from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instructions" (IDA, n.d., cited in Kormos and Smith, 2012, p.24).

This definition will be used for this study.

Attention Deficit Hyperactivity Disorder (ADHD) is sometimes referred to as a behavioural disorder, typically featuring inattention, hyperactivity and impulsivity, including during social interactions (Silver, 2004, p.33). However, there are significant learning difficulties associated with ADHD. This definition from ADHD UK will be used in this paper:

> "disorder that is defined through analysis of behaviour. People with ADHD show a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with day-to-day functioning and/or development" (ADHD UK, n.d.).

Autism Spectrum Disorder (ASD) is a group of disorders ranging from mild to severe with childhood disintegrative disorder at the latter extreme (Lord and McGee, 2001, pp.2-3). Those with ASD typically have social communicative challenges and repetitive behaviours, alongside other related characteristics. Some of those with ASD are non-verbal, relying on alternative communicative strategies such as Makaton (Sheehy and Duffy, 2009, p.93). For the purposes of this study, we will not focus on non-verbal sufferers of ASD as they may be less likely to be in mainstream EAL settings. The working definition of ASD used for this research will therefore

be a “lifelong developmental disability which affects how people communicate and interact with the world” (National Autistic Society, n.d.).

It can be seen from these definitions and common traits that these learners are likely to be impacted within a classroom environment. As all three of these disorders have traits affecting their written and spoken communication, learning an additional language has a tendency to be affected. However, as with all learners, they deserve the opportunity to learn one (Kormos and Smith, 2012, p.xi; Doran and Noggle, 2019, p.vi). This highlights the importance of teachers understanding how to support these learners.

China has approximately 400 million English language learners, while also having a limited – but developing – knowledge of Special Educational Needs (SEN) (British Council, n.d.; Zhang and Spencer, 2015, p.168). However, the number of those within China diagnosed with dyslexia, ADHD and ASD are significantly lower than those shared from the UK. While data is somewhat hard to find, published information shows approximately 5% of the Chinese population have disabilities, of which our three SENs are just a small number. This contrasts with the UK where 10% are estimated to be dyslexia, approximately 4% with ADHD and 1% with ASD. (ADHD UK, n.d.; British Dyslexia Association, n.d.; Deng et al., 2001, p.293; National Autistic Society, n.d). These lower numbers could suggest there is less need to do research related to SEN within the context of Greater China. However, these lower occurrence rates are possibly due to cultural stigma and a lack of infrastructure to diagnose, rather than a lack of individuals who meet the relevant criteria (Clark et al., 2019, p.137; Jin et al., 2018, p.2440; Su et al., 2021, p.415; Tzeng, 2007, p.173). Understanding the reasons for these lower rates of diagnosis is beyond the scope of this paper. However, it does mean that this paper will

focus on supporting learners with the traits of these disorders, rather than only those with a formal diagnosis.

It seems an appropriate time, as the awareness grows, to look more closely at how to support learners and their teachers in China. This growth in awareness is related to legislation and inclusive practices being put in place and promoted from the top. These include Regulations Educating Students with Disabilities (2008) and Learning in Regular Classrooms Initiatives (Clark et al., 2019, p.35; Deng and Harris, 2008, p.195). These top-down guidelines and suggestions include encouraging interaction between learners with SEN and neurotypical learners, that social skills should be focused on and activities and instructions should be adapted to meet learners' needs (Deng and Harris, 2008, p.198). However, these initiatives are not necessarily seen in all parts of the country, as learners with SEN still have limited educational opportunities (Huang et al., 2013, cited in Clark et al, 2019, p.135; Song et al., 2013, p.210). Due to the limited number of learners with diagnosed SEN in mainstream learning, it could be challenging for individual educators within Greater China to develop suitable techniques due to limited opportunities to learn, implement and reflect upon the success of different methods (Ballantyne et al., 2021, p.165; Deng and Manset, cited in Ballantyne et al., 2021, pp.162-163; Huang, Jia and Wheeler, 2013, cited in Clark et al., 2019, p.135). This paper aims to fill the gap and support the identification of successful teaching strategies.

Another key issue hindering the effectiveness of the teaching of those with traits of SEN is the training, or lack thereof, provided to teachers, both pre-service and in-service. This is limited in the field of EAL, as well as the wider field of education (MacLeod and Perepa, 2020, p.199;

Nijakowska, 2014, p.129; Nijakowska et al., 2018, p.358; Nijakowska et al., 2020, p.783). Within China, minimum requirements for EAL teachers typically involve a 120-hour online TEFL (Teaching English as a Foreign Language) course, a Bachelors degree in any subject and a passport from a recognised English-speaking country (EF Yingfu, n.d.). These TEFL courses do not typically include any input regarding learners with SEN, nor do higher-level qualifications such as Trinity College London's DipTESOL (i-to-i, n.d.; Trinity College London, 2005). Research into the impact of training strategies on effective EAL teaching of those with SEN would be worthy of research. However, rather than focus on the implementation and effectiveness of training, this paper should instead inform some of the input provided on training courses, as it will aim to highlight successful practices and strategies.

Another development within China in relation to English language teaching has been in the growth in the acceptance of Communicative Language Teaching (CLT) (Hu, 2002, cited in Copland et al., 2014, p.740). As teachers acknowledged that learners' speaking skills were less developed than other language skills, educators and institutions to an alternative method, CLT (Chu, 2023, p.19). It seems, therefore, an opportune moment to consider how to effectively align CLT with these inclusive practices to support all learners in order to maximise their learning opportunities.

China's growing awareness of SEN in classrooms, and the growth and wider acceptance of CLT, but the limited support and training provided to educational practitioners has guided the formation of this study and highlighted its importance. By understanding what is already happening in other EAL contexts, we aim to be able to better understand the success criteria and how these can be applied in the Chinese context, to support learners and teachers alike.

Chapter Two: Literature Review

With 10% of people worldwide estimated to have Special Educational Needs (SEN) including those in question for this research; dyslexia, Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD), this research comes from the standpoint that providing support to these learners is integral (Kormos and Smith, 2012, p.xi). This paper will systematically review literature in order to discover practical techniques that EAL (English as an Additional Language) educators can use in their classrooms. To better inform this research it is important to understand the current knowledge and attitude of educators to verify the necessity and clarify the focus of this research. Another integral role of the literature review will be to understand the exact challenges that learners have in our EAL classrooms, based on current dominant methodologies.

2.1 Understanding of SEN among EAL Teachers

There is limited research specifically discussing the knowledge of, and attitudes towards, SEN among English language teachers. This is confirmed by other secondary research (Indrarathne, 2019, p.631). Most of the research centres on dyslexia (e.g., Lemperou et al., 2011; Nijakowska, 2014; Nijakowska et al., 2020). There seems to be a gap for more consideration of other SEN, such as ADHD and ASD, as these also impact on second language learning. This research aims to begin this process.

The available studies found that many teachers and their trainers have limited knowledge of SEN (Indrarathne, 2019, p.642; Nijakowska, 2014, p.129). This is partly due to a lack of input during their initial training regarding identifying those who may have additional challenges and how to provide appropriate support (Nijakowska, 2014, p.129; Nijakowska et al., 2018, p.358; Nijakowska et al., 2020, p.783). However, there is some recent literature that shows some improvement in this regard. Nijakowska's 2022 study focused on a training course for pre-service teachers which increased awareness of inclusive practices. While this training course led to partial success in increasing knowledge, teachers still had concerns about how the practices could be implemented (p.175). Research such as this verifies the belief underlining this research that it is important to support SEN learners within our classrooms and demonstrates that this research is coming at an appropriate time and within a climate of growing awareness of SEN within the EAL teaching community. Teachers, even after having targeted training courses, still have concerns regarding classroom practices. This verifies that this research, aiming to synthesise successful practices, has merits and will be highly beneficial to pre-service, and in-service, teachers (Nijakowska, 2022, p.175).

However, in research from Hong Kong, it was found that some EAL teachers had a negative view of inclusive practices (Chan and Lo, 2017, pp.716-717). This may indicate that not all teachers will be interested in research such as this paper. On the other hand, the same study also claims that those teachers who were making attempts to better support learners with SEN often do so with little support from their institution, or from previous input gained during training (Chan and Lo, 2017, p.717). This research aims to fill this gap and provide interested teachers and institutions with successful techniques that align with second language acquisition (SLA) and combat challenges faced by learners with SEN.

The lack of consistent training across many EAL contexts contrasts with the fact that teachers identify that they have learners in their classes struggling but they are unsure why, or they suspect that SEN may be a factor, but don't know how to support them (Cunliffe, n.d., p.4; Indrarathne, 2019, p.643). This further highlights the value of this research which will directly highlight practices that can be used in classes.

2.2 Impact on Learning

From the literature, it is clear that teachers are open to, and often want, strategies that they can apply in their classes (Wang et al., 2019, p.150, Chan and Lo, 2017, p.726). In order to inform the selection of techniques, a clear grasp of the challenges these learners face, and the nuances of these challenges, is important. By identifying the specific and significant challenges learners with SEN face in a contemporary EAL classroom, it also adds further validity to the importance of this research in discovering practical strategies.

2.2.1 Social Communication

Some SLA theorists hold the belief that second languages are acquired through social interaction (Larsen-Freeman, 2007, pp.779, 781). The socio-cultural model of SLA has directly influenced the teaching methodologies that are becoming more prominent in EAL teaching within Greater China and beyond (Hu, 2002, cited in Copland et al., 2014, p.740). As techniques, such as Communicative Language Teaching (CLT) and Task-Based Learning (TBL), have become more significant in our EAL classrooms, this will inevitably have an impact on learners with SEN, including ADHD, ASD and dyslexia. All of these disorders have challenges

associated with social communication. If we believe that second languages are best acquired through communication, then we, as educators, must support learners who have challenges in this sphere.

As CLT classrooms rely on learner interaction, collaboration and communication, our SEN learners who struggle to participate in social, group tasks could be adversely affected and may not reach their potential in these classrooms (Copland et al., 2014, p.740; Guldberg, 2020, p.136; Nijakowska, 2010, p.127). One role that this research has is to suggest techniques to ensure CLT is effective for everyone. This role is very important as learners with autistic traits still want to interact with others and appreciate opportunities for collaborative tasks (Dillon et al., 2016, p.226, p.228). We must acknowledge that learners with SEN may find group learning tasks challenging, but they have a great desire to develop, learn and progress. Therefore, this research aims to find strategies to support, rather than put limits on, our learners with additional learning difficulties.

In many subtypes of ASD, there can be a language delay (Kormos and Smith, 2012, p.52-53). This can be seen to have important implications for learning a language in a communicative classroom, especially for young learners. One aspect of second language acquisition is the critical period hypothesis. This hypothesis argues that children at an earlier age can acquire a second language more effectively and can learn to an almost native level (Johnson and Newport, 1989, p.90). This has led to an increase in schools and institutions teaching English to young learners (Jaekel et al., 2002, p.1). There may be some conflict here.

Another argument for communicative learning not being an effective teaching methodology for SEN learners is that learners with ASD often struggle with non-verbal and paralinguistic cues. This may result in inappropriate gestures, a monotone voice and limited facial expressions. They may also not be able to understand and interpret cues from others during communicative tasks (Wing, 1981, p.116). As non-verbal cues guide participants in a conversation to know when to speak or when someone else wants to add to continue, this may lead ASD learners to interrupt others or dominate a conversation (Kana and Just, 2011, p.981). Those with ADHD also display similar behaviour, although for different reasons. Due to their impulsivity, they may interrupt or insert themselves during activities or conversations (DuPaul and Stoner, 2014, p.8).

CLT also utilises role plays to provide learners semi-authentic scenarios to use the language (Harmer, 2007 p.69). This use of role plays has an impact on autistic individuals who interpret language literally and struggle with imaginative play (Kormos and Smith, 2012, p.54; Wing, 1981, p.117). It could suggest that roleplays are not suited to autistic learners.

Socio-cultural models of learning, and CLT as a consequence, holds that language can be learned through exposure and practice (Harmer, 2007, p.69). However, some have highlighted that a CLT classroom may not be suited to SEN learners due to their difficulty with learning implicitly through communication (Ganschow et al., 1998, Ganschow and Sparks, 2000, Sparks et al., 1992, cited in Nijakowska, 2010, p.127; Guldberg, 2020, p.136). This shows that teaching SEN learners using these implicit teaching strategies may not be best. Instead, a methodology that draws on and emphasises explicit learning may be more suited to language learning with SEN learners (Nijakowska, 2010, p.127). This ties together socio-

cultural models of SLA and cognitive models. Some of the reasons learners struggle with learning through socio-communicative methodologies may be due to cognitive challenges, such as attention and memory (Kormos and Smith, 2012, p.32).

2.2.2 Cognitive Aspects

Another model and explanation for SLA comes from the cognitive models that focus on the internal mental processes that contribute to learning (Larsen-Freeman, 2007, p.779). However, we have seen that cognitive processes impact the success of learning within a communicative setting. Therefore, any challenges that learners have in terms of cognitive processes will have a huge impact on language learning, irrespective of the methodology utilised.

Memory

Memory is an integral part of learning anything, however Helland and Kaasa emphasised that learning a second language in a formal classroom setting puts particularly significant burdens on learners' memory (2005, p.45). This has implications for learners who have memory weaknesses. Those with dyslexia and ADHD have reported weaknesses in working memory (Alloway et al., 2009, p.607). This has, in the case of dyslexia, been shown to manifest itself in an inability, or struggle, to remember sounds, and the relationship between a grapheme and its phoneme (Kormos and Smith, 2012, p.32). If learners cannot hold sounds and their letter form in their working memory long enough to process them there is an implication that, based on our understanding of how memory works, there is no opportunity for it to move to

short- or long-term memory (Baddeley and Hitch, 1974, as cited in Kormos and Smith, 2012, p.25).

Another element of memory with a significant impact upon learning a second language is automaticity. Dyslexic learners have challenges with skills and knowledge becoming automatic (Nicolson and Fawcett, 2008, p.195). This would have implications for developing learners' fluency in speaking, as well as impacting learners' achievement during exams or tasks with a time limit. This has led some to conclude that dyslexic learners have a more notable challenge with speed, compared to accuracy (Fawcett, 2016, p.14). This has implications for the type of support that may be successful for dyslexic learners in a second language classroom.

However, the SEN being examined in this paper are not homogenous and abilities in memory are one demonstration of this. Studies have identified that some of those on the autistic spectrum demonstrate a strong rote memory (Wing, 1981, p.117). This may have implications for learning vocabulary or grammatical structures. It could prove to be beneficial during some testing, depending on the style and aims. From a Chinese point of view, a good rote memory may prove beneficial for test taking as many Chinese exams have set answers and teaching is lecture style (Deng and Harris, 2008, p.202). This shows there may be some traits of the SEN that aid some elements of second language learning. On the other hand, those with autistic characteristics may tend, due to their strong rote memory, to speak using set phrases that appear robotic or not wholly suitable for the context (Wing, 1981, p.117). This could affect learners in conversations and role-play-based tasks in a communicative language classroom.

As can be seen from these findings, not all learners with SEN experience identical challenges. This can make identifying strategies more challenging for individual educators, especially those with limited experience with SEN. The systematic review in this research reflects this by bringing together and finding commonalities between teaching strategies to find principles to support teachers and their SEN learners.

Attention

Another key cognitive aspect is attention. Attention is an integral part of the learning process. Self-monitoring of output to ensure accuracy has an important role in second language learning (Kormos and Smith, 2012, p.32). If learners struggle to self-correct, it can give the impression of not concentrating. This learner challenge has implications for teachers. Standard books regarding effective language teaching encourage self-correction (Harmer, 2007, pp.144-145). There are significant amounts of literature discussing the challenges learners with dyslexia and ADHD have with attention. One aspect is self-monitoring (e.g., Bell and Tudhope, 2016, p.156; Ellison, 2002, p.3).

For learners with a subtype of ADHD focused on attention deficit, these attention-related challenges are particularly detrimental to reaching their full learning potential. The most impactful obstacles for second language learning may be “difficulty following instructions”, “can’t listen for long”, “attention most impaired for boring tasks” and “attention is good for novel & interesting tasks” (Ellison, 2002, p.12). Tasks in a language learning classroom, such as drilling of the target language may fall into those tasks identified as “boring” (Perdana et al., 2019, p.113). Alongside these challenges, managing distractions is also a significant challenge for those with ADHD (Ellison, 2002, p.3). However, one nuance to note is that Ellison

(2002) highlighted that adolescents and adults with ADHD may have different attention-based challenges, with adolescents having greater difficulties (p.12). As learners of all ages are learning a second language, the differing ages of the participants in studies needs to be considered when systematically reviewing the literature later in this paper.

2.2.3 Language Skills

As well as the cognitive and communicative challenges learners with SEN have, those with dyslexia especially have direct challenges with reading and writing. This may become more pronounced as English language teaching moves to a more intuitive, communicative methodology (Copland et al., 2014, p.740; Guldberg, 2020, p.136; Nijakowska, 2010, p.127). Dyslexic learners often need an explicit approach to acquiring phonological awareness as they struggle to deduce patterns from examples (Nijakowska, 2010, p.127). This relates to the growth of CLT and shows that, as this paper further develops, it will be important to investigate how to support learners in a contemporary language classroom. However, to do this we must understand the aspects of the English language they struggle with.

Common challenges include difficulty with phonological awareness and recalling and processing the relationship between the grapheme and phoneme. This affects decoding words to aid in their reading and segmenting words to aid in their spelling (Bell and Tudhope, 2016, p.155; Kormos and Smith, 2012, p.32). This difficulty may be deepened when learning English, as English phonemes can be pronounced with different letter combinations and letter combinations can form different phonemes (Kormos and Smith, 2012, p.75). Dyslexic learners may also struggle with reading comprehension. As they actively concentrate on decoding,

processing and recognising the words, they may focus on the pronunciation rather than the meaning (Pollock et al., 2004, p.52). This can make CLT, where there is a focus on meaning and responding appropriately, challenging.

While dyslexic learners typically have issues related to comprehension and producing the written word, we cannot assume that all will have issues with second language learning. Some dyslexic learners have fewer issues when learning a second language. This may be because their subtype of dyslexia affects the second language, such as English, less or because they can use the knowledge and awareness from their first language to make learning their second language easier (Bonifacci et al., 2017, p.183; Ho et al., 2007, p.63; Siegel, 2016, p.145).

Literature therefore emphasises that teachers must see each language learner as an individual, rather than a label. It will be important to consider when performing the literature search and data analysis, how many examples of the research looks on a small-scale, focusing on a limited number of individuals, rather than looking on a meta-level.

2.2.4 Emotional

Another key theory related to SLA highlights the importance of emotions and attitudes to effective learning. One of the most significant is the Affective Filter Hypothesis. Krashen argued that if learners have negative emotions, such as anxiety, nervousness and fear, there will be a block to effective language acquisition (1982, p.31). These emotions have been noted in research regarding learners with SEN.

Research has found anxiety to be common among those with dyslexia and autism. This may be exacerbated when they struggle to complete tasks in the language classroom (Dal, 2008, p.440; Szatmari and McConnell, 2011, p.330). Anxiety, as well as other challenging emotions, can also be caused by classroom challenges experienced by learners with ASD (Guldberg, 2020, pp.136-137; Kormos and Smith, 2012, p.54). This could imply that research into supporting learners in an EAL classroom should not only consider the teaching techniques and activities, but also classroom management strategies.

In research by Ellison into learners with ADHD, it was found that feelings of humiliation can be experienced by learners. It may stem from negative comments and teacher feedback (2002, p.10). This also relates to other findings by Ellison, as well as others, who found feelings of self-doubt and low self-esteem among learners with ADHD and dyslexia (Ellison, 2002, p.10; Humphrey, 2002, p.32), potentially influenced by teachers who have negative attitudes towards these learners in their classroom (Kormos and Smith, 2012, p.xi; Tong et al., 2011, cited in Chan and Lo, 2017, pp.716-717). This emphasises that there is a significant need to support teachers to adjust their thinking. This research aims to be part of this process by showing what techniques can be successful.

These negative emotions, alongside the communication, cognitive and skill challenges, may negatively impact the motivation of learners with SEN to learn a second language (Kormos and Smith, 2012, p.65). However, it is wrong to claim that learners with SEN have limited motivation to learn English. Schneider and Crombie found strong motivation among these learners (2003, pp.46-47). This paper agrees with Dal who asserted that an essential part of a language teacher's job is to maintain and boost motivation within the classroom (2008,

p.442). A key part of maximising motivation is to include carefully thought-through activities, techniques and strategies. Therefore, this research aims to identify the successful strategies which support teachers in an essential part of their job.

With challenges coming from a number of different angles, second language acquisition is clearly impacted by the traits and challenges of dyslexia, ADHD and ASD. This shows that there is significant value in this research – to find strategies that can be used alongside current practices for successful second language learning. One of the most important current practices, and one that is taking hold in China, is Communicative Language Teaching, drawing on socio-cultural models of SLA (Hu, 2002, cited in Copland et al., 2014, p.740). This research will reflect and build upon this, highlighting strategies that can be used to combat learners' challenges within a communicative language classroom.

Chapter Three: Methodology

In order to understand how English as an Additional Language (EAL) teachers can combat the challenges that learners with dyslexia, Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD) experience a systematic review methodology will be used. By following this approach, with its reliability and transparency, later researchers will be able to repeat the search and review later, as further research and pedagogies develop (Chong and Plonsky, 2021, p.1025; Macaro, 2020, cited in Chong and Plonsky, 2021, p.1027). This transparency is especially significant as the nature of this research does not allow for multiple researchers to be involved. Typically, research enhances its validity by having multiple researchers. This allows them to share ideas, confirm the other researchers' analysis and interpretation and ensure no significant information is overlooked (Liu and Chong, 2023, p.5, p.10). A systematic approach will also allow us to aggregate the findings from a range of different contexts. This is particularly beneficial where research articles are small-scale studies and may be less reliable when taken on an individual basis (Chong and Plonsky, 2021, p.1026).

Within the context of Greater China, there is still a significant cultural stigma regarding Special Educational Needs (SEN) (Clark et al., 2019, p.136; Yu et al., 2020, p.1540, Deng et al., 2001, p.296). It may therefore be culturally or ethically questionable and insensitive to explicitly, or implicitly, indicate to parents or teachers that their children or learners may have traits of dyslexia, ADHD or ASD. Secondary research, rather than doing research within a Chinese educational institution, may be more suitable. Therefore, at this time it is best to use a

systematic review of other literature to inform potential future practices, rather than a case study or action research piece.

The framework for this paper will follow that outlined by Chong and Reinders. Therefore, the seven steps will be: identifying research questions, identifying the keywords that will be used in the literature search, carrying out the literature search, screening the literature based on the inclusion criteria, extracting the data, synthesising the data and finally reporting the data (Chong and Reinders, 2020, cited in Chong and Plonksy, 2021, p.1027). To support the steps of extracting and synthesising the data, a grounded theory approach will be applied with initial, focused and theoretical coding (Chun Tie et al., 2019, p. 5).

3.1 Research Questions

This paper will aim to answer the following three research questions:

1) What techniques are being used successfully around the world to support EAL learners with SEN?
2) What techniques to support learners with SEN learning English are being highlighted in Greater China?
3) To what extent can these techniques be integrated into Communicative Language Teaching (CLT) in Greater China?

3.2 Identification of Key Words

The focus of this research is dyslexia, ADHD or ASD within an EAL environment. As Chong and Plonsky asserted, it is important to include alternative versions of the keywords in order to

find all appropriate articles (2021, p.1028). As the research is interested in research from any country, it was important to consider the various terminology and acronyms for English language learning. Depending on the role of English in the country, it may be identified as English as a Second Language, English as a Foreign Language or English as an Additional Language (Richards and Schmidt, 2002, p.180). Therefore, all three, and their equivalent acronyms were used as keywords. Similarly, for the SEN, it was important to consider their alternative names, including Attention Deficit Disorder and Autism.

During an initial trial to ensure success with these keywords, there were some challenges with searching for the acronyms over the full article as many irrelevant papers were found. For example, within the field of epilepsy, ASD represents antiseizure drugs and therefore a high number of articles pertaining to epilepsy were found (Hakami, 2021). Therefore, to ensure efficiency and effectiveness, keywords were searched only as part of the title and abstract. This acted to reduce the number of completely irrelevant articles, but did not eliminate them all due to the prevalence of the same acronyms, with different meanings, across topics (Mehta et al., 2020). The final search criteria used can be found in Table 1.

“English as an Additional Language” OR “EAL” OR “English as a Second Language” OR “ESL” OR “second language” OR	AND	“dyslexia” OR “dyslexic”
		“ADHD” OR “Attention Deficit Hyperactivity Disorder” OR “Attention Deficit Disorder”

"English language learning" OR "English as a Foreign Language" OR "EFL" OR "English language teaching" OR "English language learners"		"ASD" OR "Autism" OR "Autism Spectrum Disorder" OR "Autistic Spectrum Disorder"

Table 1: Search Criteria

3.3 Literature Search

Multiple databases and article sources were considered. The three that were ultimately chosen were EbescoHost, Scopus and Web of Science. These are based on the principles of effectiveness – in terms of finding all relevant articles – efficiency – based on enabling researchers to find and retrieve articles – and reproducibility – allowing later researchers to replicate the search (Gusenbauer and Haddaway, 2020, pp.183-184). With large search databases, over 70 million and 73 million articles in the cases of Scopus and Web of Science respectively, the search was able to maximise effectiveness (Gusenbauer and Haddaway, 2020, pp.200-201).

The three databases used also supported efficiency by allowing for bulk download of articles. This was found not to be possible or with lower limits with JSTOR and Science Direct, while ERIC was not as efficient when attempting advanced searches with multiple criteria. This assessment was corroborated by Gusenbauer and Haddaway who identified EbescoHost, Scopus and Web of Science as ideal for systematic reviews (2020, p.208).

After the initial literature search, 784 articles were found. These were imported into reference manager software, EndNote. Over the course of several rounds of screening, inclusion criteria were applied to find appropriate literature for the review. The inclusion criteria can be found in Table 2.

Language	English
Type of Research	Primary
Participants	EAL Learners with SEN in English language learning classrooms
Focus	Classroom Practices that Support EAL Learners with Dyslexia, ADHD or ASD
Reliability	Peer-Reviewed

Table 2: Inclusion Criteria

In order to ensure accuracy in the reporting of the literature, the PRISMA approach was used. Using this transparent approach, the reliability of the research is maximised (Page et al., 2021, p.2).

During the pre-screening process, duplicates as well as literature that had not gone through a peer-review process, such as theses, conference papers and books were excluded.

During the first screening stage, it was noted that many articles were excluded as, although they focused on SEN, they did not examine classroom practices. For example, articles were excluded that focused on diagnosis (eighteen articles), practices to support beyond the

classroom (six articles), challenges faced by these learners (seventy-six articles), teacher knowledge (nine articles) and the disorders from a scientific standpoint (fifteen articles). This indicates that research is being done on a range of different aspects of special needs within the educational sphere, reflecting a growing awareness of its importance.

In the final step of the screening process, 84 articles were searched for, with 80 articles found. Articles were excluded at this point due to focusing on questions irrelevant to this research (19 articles), having no part explicitly discussing successful classroom practices (11 articles), not focusing on EAL learners (six articles), examining second languages other than English (three articles), being written in a language other than English (eight articles) and secondary research (nine articles).

As this study is being carried out by a researcher who does not have the skillset to comprehend academic articles in foreign languages, eight articles had to be excluded. This may impact later discussions as it means that some potentially significant research cannot be included and commented upon.

After the full screening process, 24 articles were included in the systematic review.

The search process can be found in Figure 1.

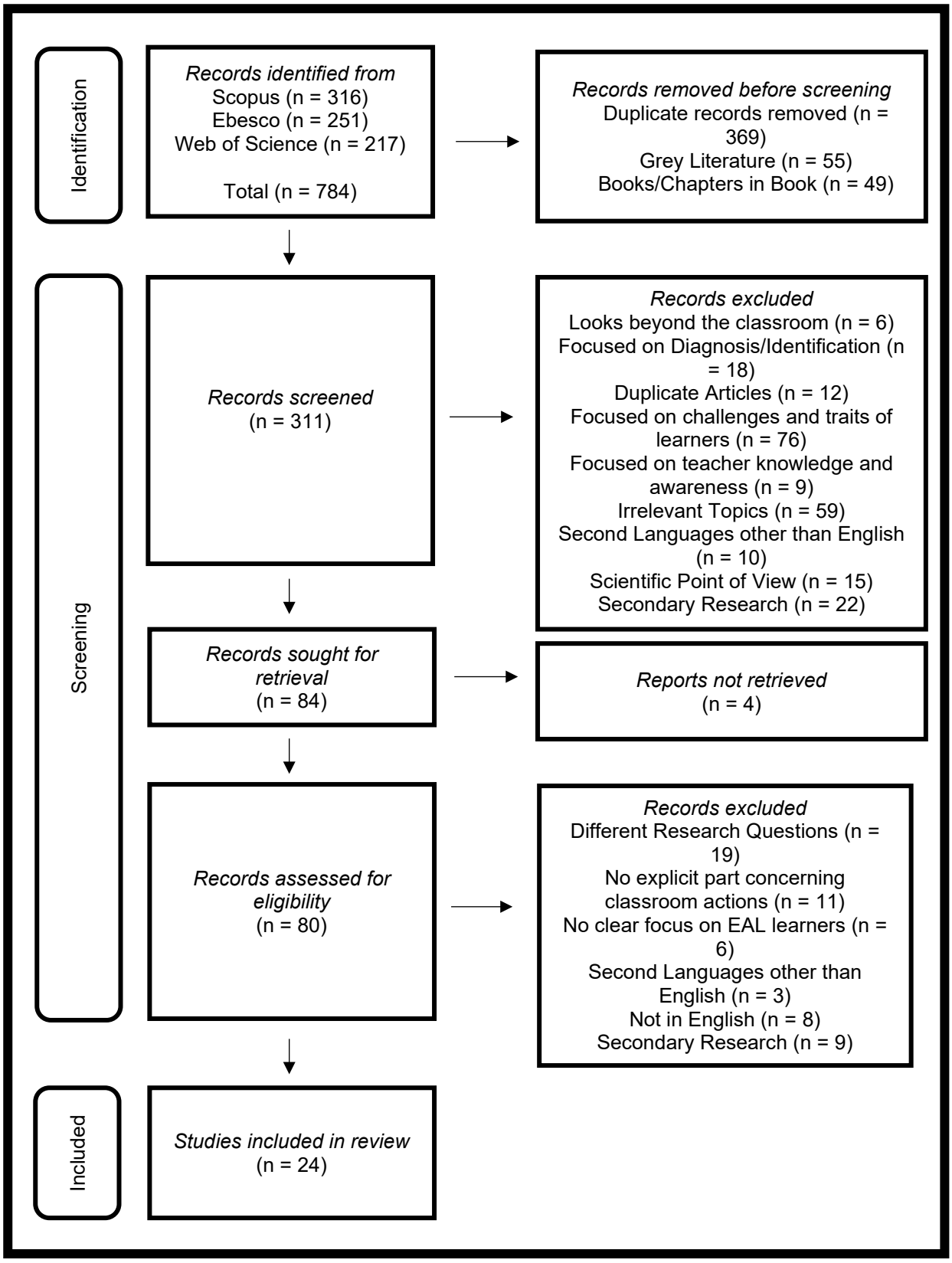

Figure 1: PRISMA Flow Chart (Prisma Transparent Reporting of Systematic Reviews and Meta Analyses, 2020)

3.4 Extracting and Synthesising the Data

In order to extract and synthesise the data from the literature search, a ground theory approach was used. It is common within educational research for grounded theory to be used as a technique for data analysis, within a larger research methodology (Stough and Lee, 2021, p.3). This paper mirrors this practice. This allows the research to be data-driven. Following an inductive methodology, objectivity can be enhanced as data is not found, or ignored, just to fit a preconceived theory (Thornberg et al., 2015, pp.405-406). Grounded Theory is also flexible and is suitable as a data analysis tool for a range of different kinds of sources, including qualitative and mixed-methods studies (Thornberg et al., 2015, p.407). It therefore seems appropriate to use this theory in this piece.

After the studies to be included in the review were identified, they were copied onto NVivo software in order to code, group and organise the information. Following the constructionist style of Grounded Theory, data analysis followed three steps: initial coding, focused coding and theoretical coding (Chun Tie et al., 2019, p.5). The first step in this process involves careful reading of the literature. In order to maintain the objectivity of this research, no inferences are made at this stage and codes reflect directly the information in the literature (Thornberg et al., 2015, pp.409-410). During the focused coding stage, the initial codes were reflected upon and relationships were identified between them. During this step, codes were combined or put under a larger umbrella code or category. During the final step in Grounded Theory, the categories were related together in order to come to a theory concerning the most important principles behind successful pedagogies to support EAL learners with SEN.

Throughout this process the practice of memo-writing was followed to allow connections, links and reflections to be documented on a continual basis (Thornberg et al., 2015, p.420).

After the three stages of Grounded Theory were complete, the key information, including the article title, the year of publication, the country where the study was completed and the age of the learners being supported, as well as the common ideas they featured, were recorded. This can be found in Appendix 1.

Following the synthesis of the data and the creation of the categories, the next step was to use a 'thematic-narrative' approach to reporting the findings (Chong and Plonsky, 2021, p.1031).

This systematic analysis of the literature, with a carefully defined and outlined process that later researchers can follow, maximises the reliability of the research which will be essential for its success. It also lays a solid foundation for the reporting of the data by showing the commonalities of successful pedagogies for teaching EAL learners with dyslexia, ADHD or ASD.

Chapter Four: Results

After a systematic literature search, 24 articles focused on identifying successful techniques for teaching learners with Special Educational Needs (SEN) in an English as an Additional Language (EAL) context were identified for this research.

4.1 Background Information of the Studies

Of the articles, fifteen focused upon dyslexia (e.g., Ghoneim and Elghotmy, 2021), three focused on Attention Deficit Hyperactivity Disorder (ADHD) (e.g., Hvozdíková, 2011) and six focused on Autism Spectrum Disorder (ASD) (e.g., Padmadewi and Artini, 2017). Of those focused on dyslexia, two explicitly stated that their research subjects had an undiagnosed reading disability, rather than confirmed dyslexia (Romero, 2020; Xin and Yunus, 2020).

They covered a range of different regions, including North America (Alison et al., 2017), Central America (e.g., Bradley, 2019), South America (e.g., Romero, 2020), East Asia (e.g., Chiang and Liu, 2011), West Asia (e.g., Gharaibeh and Dukmak, 2022), Europe (e.g., Jarsve and Tsagari, 2022) and North Africa (Ghoneim and Elghotmy, 2021). Only one article detailed a study based within Greater China (Chiang and Liu, 2011). The number of articles from each region can be found in Figure 2.

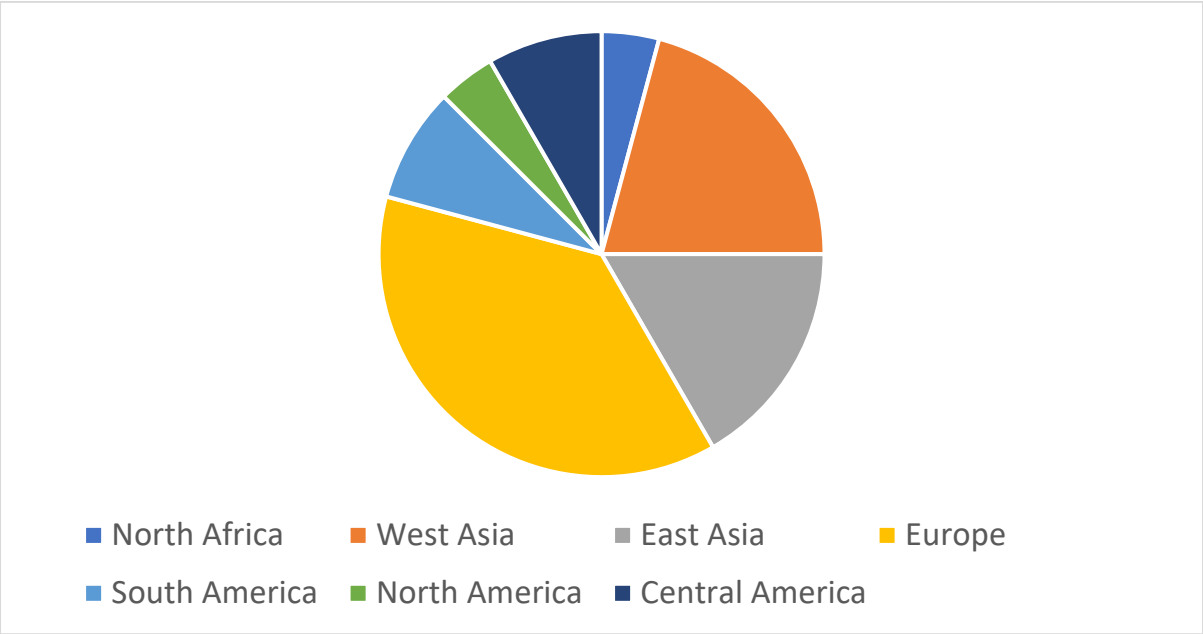

Figure 2: Graph showing Location of Studies in Literature Search

The vast majority of the articles focused on learners aged 18 or under. 22 articles focused on these school-age learners (e.g., Eden and Shmila, 2023) with only two articles looking at adults (e.g., Diaz-Ducca, 2016). Full details of exact ages of the study participants can be found in Appendix 1.

Four articles were individual case-studies focusing on just one individual, while ten focused on five or fewer learners. Full details can be found in Appendix 1.

4.2 Analysis by Category

The studies were analysed in order to establish the successful teaching techniques and principles that were identified. In order to lay the foundations for later discussion, a

"thematic-narrative" approach will be followed, starting with the most common technique or principle and going to the least common (Chong and Plonsky, 2021, p.1031). The number of articles that feature each of the teaching techniques can be found in Figure 3, with further details in Appendix 1.

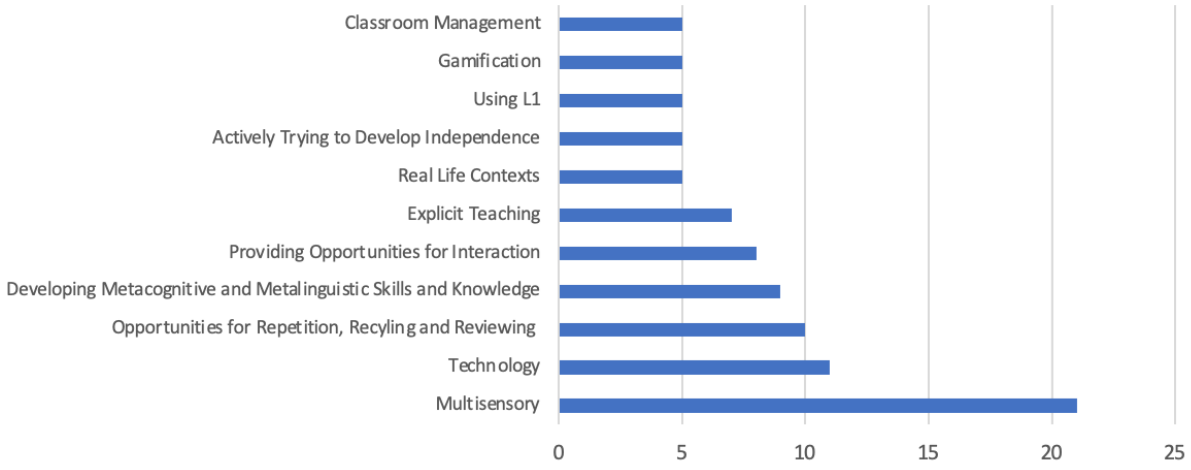

Figure 3: Graph Showing Suggested Techniques to Support SEN Learners in EAL Classes

4.2.1 Multisensory

Of the 24 articles, 21 of them mentioned multisensory elements as a key point. This included articles that examine dyslexia, ADHD and ASD (e.g., Liontou, 2019; Pfenniger, 2015; Zohoorian et al., 2021). Of these 21 articles, four articles referred directly to multisensory techniques in the title (e.g., Romero, 2020).

Activities that included both visual and audio were often highlighted. For example, Alison et al. found success when learners "listened to one adapted chapter … that had been recorded onto an iPad, while they followed along with the text on screen" (2017, p.96). This reflects how studies highlighted multisensory principles supporting reading skills. Košak-Babuder et

al., argued that the “beneficial boost provided by read-aloud assistance for young dyslexic learners is likely to be caused by the fact that listening to a text which is more difficult for them relieves them of the processing burden of visual word decoding in their L2” (2019, p.67). The success of multisensory techniques for supporting reading development was highlighted by Gharaibeh and Dukmak (2022, p,513).

Multisensory techniques were also highlighted as positives in supporting the development of grammar, vocabulary and phonological awareness among learners with SEN. Romero wrote that “target multisensory activities to assist them in their learning related to grammar … learning the verbs and their use … showed a progress in their english [sic] academic performance” (2020, p.41). Romero also noted that “use of ears, eyes, mouth” supported learning vocabulary (2020, p.40). In relation to phonological awareness, Romero also stated that learners using “their ears to identify the words” and using their fingers to show “the quantity according to the sound they thought the teacher said” (2020, p.40). Eden and Shmila, meanwhile, highlighted that learners who used multisensory techniques performed better in learning “receptive vocabulary” than those who use alternatives (2023, p.298).

Kinaesthetic and tactile learning was also highlighted. For example, arranging “tangible alphabet tiles” (Eden and Shmila, 2023, p.291), using “moveable cards” (Jarsve and Tsagari, 2022, p.173) and “flashcards, mini objects … and toys” (Zohoorian et al., 2021, p.6).

Of the senses, however, vision was often particularly highlighted. Diaz-Ducca, Romero and Liontou also made note of the benefits of using different colours (Liontou, 2019, p.225; Diaz-Ducca, 2016, p.20; Romero, 2020, p.41). Using visuals was also noted to aid with cognitive

abilities with increased attention noted by Padmadewi and Artini (2017, p.170) and memory noted by Gałązka and Dick-Bursztyn (2019, p.200).

However, it was noted by Gałązka and Dick-Bursztyn that teachers have to be aware of not overwhelming learners (2019, p.200).

4.2.2 Technology

Eleven articles considered technology as helpful to teaching learners with SEN. These focused on all three target disorders (e.g., Alison et al., 2017; Gharaibeh and Dukmak, 2022; Liontou, 2019). Of the 11 articles, the word "technology" or a type of technology was included in the titles of seven of them (e.g., Eden and Shmila, 2023; Holguín and Rezabala, 2020).

A range of different technologies were involved in positive interventions for learners with SEN, including Interactive White Boards (IWBs) (e.g., Gałązka and Dick-Bursztyn, 2019, p.201), tablets or touchscreens (e.g., Holguín and Rezabala, 2020), specific apps (Liontou, 2019, p.224) as well as reading-aloud software (e.g., Alison et al., 2017). In research by Holguín and Rezabala, use of tablets increased ADHD learners' attention from 40 seconds to 135 seconds (2020, p.12). Gałązka and Dick-Bursztyn found positive effects of using IWBs, with learners likely to volunteer to participate (2019, p.201). Edmodo (Liontou, 2019, p.224) and Quizlet (Jarsve and Tsagari, 2022, p.173) were both highlighted as specific apps that can be used to support learners with SEN. It was highlighted by Liontou that Edmodo was efficient for teachers as they "help teachers quickly set up their online classes" (2019, p.224). Using reading software was found to aid learners' "comprehension and speed" (Chiang and Liu,

2011, p.203). Košak-Babuder et al. highlighted that “reading-aloud assistance” was particularly helpful for learners with SEN (2019, p.67).

The positive role that technology can play in increasing the motivation and emotional well-being of learners in learning a second language, in both those with SEN and those without, was highlighted in a number of studies. Holguín and Rezabala stated that using technology “might … encourage and stimulate learning of other minors (with or without special educational needs) who show low motivation to learn foreign languages” (2020, p.12) while Erkan et al. noted that “using the computer enabled him [her research subject] to work at his own pace and increased his self-esteem” (2012, p.532). The motivating factor was also stressed when Gałązka and Dick-Bursztyn discussed learners volunteering to participate (2019, p.200).

Another element of technology highlighted in the studies was the positive of combining technology with multisensory techniques. Eden and Shmila had success with hybrid technology, combining “physical objects and virtual effects” (2023, p.283). Gharaibeh and Dukmak also noted success in their intervention with a “multi-media tool … that increased the association between the visual, auditory, kinesthetic and tactile senses” of learners with dyslexia (2022, p.513).

Eden and Shmila emphasised the importance of technology but could not be sure which aspect of technology led to its success (2023, p.300).

4.2.3 Opportunities for Repetition, Recycling and Reviewing of Language

Ten articles saw repetition, review and recycling of language as key components of the successful interventions. This was an element in studies focused on dyslexia, ADHD and ASD (e.g., Liontou, 2019; Tribushinina et al., 2022; Zohoorian et al., 2021).

A number of different studies highlighted the importance of learners with SEN repeatedly seeing, hearing and reading new vocabulary. Eden and Shmila asserted that words "should be repeated at least 10 times" (2023, p.284). Zohoorian et al. agreed with this and argued that "reviewing and recycling has to be … indispensable … when the bulk of the vocabulary increases in number" (2021, p.13). Xin and Yunus argued that this can be done using "graded readers ... because of the repetitive vocabulary and phrases" (2020, p.4207) while Chiang and Liu saw technology as a way to "read repetitiously" (2011, p.202). Liontou also saw technology as a strength in allowing "new lexical items and grammar … [to] be easily revised" (2019, p.226).

As well as in class, many studies considered how the in-class intervention could relate to reviewing beyond the classroom. Tribushinina et al. highlighted practice beyond the class as beneficial for dyslexic learners (2022, p.363). Gałązka and Dick-Bursztyn highlighted that "students are used to using different mobile devices" (2019, p.200). Diaz-Ducca's study promoted assigning "review exercises to do as homework for extra practice" (2016, p.19).

4.2.4 Developing Metacognitive and Metalinguistic Skills and Knowledge

Developing, and explicitly teaching, metacognitive skills and metalinguistic knowledge were found to be components in nine studies. It was a feature in articles focused on the range of SEN being studied in this paper (e.g., Alison et al., 2017; Fišer and Kałdonek-Crnjaković, 2022, Liontou, 2019).

Developing metacognitive skills was highlighted in a number of studies. Romero focused on this, arguing that using multisensory activities encouraged learners to "identify their meta-cognitive to approach learning" and highlighted that strategies used should help learners to "gain awareness of what their needs might be and how to cope with their struggles" (2020, p.41).

Ensuring learners with SEN develop key study skills was also an element of successful strategies outlined. For example, Liontou highlighted the built-in feature of the software she used which prompted learners to review their answers, only allowing them to submit after a certain duration (2019, p.225). Encouraging the skill of self-correction was also mentioned by Gharaibeh and Dukmak as they wrote that "the children are able to identify their shortcomings in pronouncing the words and prompt them to correct the words by repeating them" (2022, p.513).

Liontou also considered how strategies could guide learners with ADHD to organise their thoughts by showing them "mind maps" (2019, p.225). Showing learners "helpful learning tools" such as "highlighting" and "sticky note[s]" was also a feature of Chiang and Liu's

research. They highlighted that using techniques with technology that can be recreated on "real notes" was positively received by learners (2011, p.202).

Some studies noted that strategies that encourage self-correction should be incorporated. This was done in Liontou's study with the ability for learners to make multiple recordings and then choose what they believed was the "most successful attempt" (2019, p.225).

4.2.5 Providing Opportunities for Interaction

Providing opportunities for interaction was a feature of the successful interventions in eight studies. This includes studies focused on dyslexia, ADHD and ASD (e.g., Hvozdiková, 2011; Padmadewi and Artini, 2017; Reraki, 2022).

Interaction was seen as a positive for learners with ASD with Padwadewi and Artini finding that the "modelling strategy" improved the learners' "social function" and asserting that "a buddy system is very essential" (2017, p.168). This was echoed by Diaz-Ducca who stated that "constant peer interaction" provided "emotional support" (2016, p.23) and Hvozdíková who used drama to develop socialisation skills in their learners with ADHD (2011).

Pairwork and groupwork were success arrangements for all learners. For those with dyslexia, Xin and Yunus found that "pairing less fluent reader[s] with more fluent reader[s] … could be a better alternative" (2020, p.4208), while Bradley highlighted that having autistic learners work with others can be beneficial, if choosing "empathetic students" (2019, p.176). Xin and

Yunus also noted that learners in their study “liked the peer teaching and learning that happened during reading sessions” (2020, p.4207).

While many studies highlight the success of learners working together in inclusive environments (e.g., Padwadewi and Artini, 2017), Reraki provided words of caution, stating that “non-dyslexic learners in the Greek context were not accustomed to working with learners with dyslexia and were not receptive towards their inclusion in the classroom tasks …” (2022, p.489).

4.2.6 Explicit Teaching Techniques

Teaching explicitly was highlighted in seven of the articles. It was noted in studies investigating dyslexia and ASD (e.g., Sabri et al., 2021; Tribushinina et al., 2022).

Giving feedback explicitly was highlighted as beneficial for the adult learner that Bradley focused on (2019, p.174).

It was also noted by Tribushinina et al., that explicit teaching can counteract the fact that “subtle differences … may go unnoticed in the input” and that “negative effects of the procedural learning disadvantage are aggravated by limited (classroom) exposure to the target language” (2022, p. 354, pp.362-363).

Phonological awareness and spelling were often highlighted as an area that can benefit from explicit teaching. Some studies highlighted that using explicit teaching alongside multisensory techniques was beneficial. Jarsve and Tsagari recommended "that teachers of EFL teach spelling explicitly through MSL [Multisensory Learning Approach] by practising phonological awareness and spelling patterns" (2022, p.173). Ghoneim and Elghotmy echoed this, saying "VAKT [Visual Auditory Kinaesthetic Tactile] procedures are compatible with clear instruction methods that directly teach pupil sound-symbol correspondence for individual phoneme segments" (2021, p.11). Mohamedzadeh et al. also had success with similar interventions (2020, p.23). Tribushinina et al., showed statistical improvement in learners' spelling highlighted that "the intervention group underwent a steeper development compared to the control group … who did not receive explicit spelling instruction" (2022, p.361).

Explicit teaching, alongside a more communicative approach, was stressed by Sabri et al. In the intervention detailed in their study "communicative language teaching principles are … applied in the classroom, and at the same time, there is also the occasional and overt feedback on the grammatical forms" (2021, p.99).

Conversely, implicit teaching through games was also highlighted as a successful technique by Gałązka and Dick-Bursztyn (2019, p.201).

4.2.7 Related to Learners' Real Lives

Using activities, tasks and examples that relate to contexts and situations relative to learners' real lives was a feature of five studies. It was included in articles focused on ASD and dyslexia (e.g. Bradley, 2019; Mohamedzadeh et al., 2020).

Authentic materials were referenced in a number of studies as helping to show learners "how language is actually used" (Bradley, 2019, p.176) and creating an "enjoyable environment" (Ghoneim and Elghotmy, 2021, p.27).

Technology was highlighted by Gałązka and Dick-Bursztyn as a way to reflect, in the classroom, what learners are doing at home and thereby boost motivation: "students are used to using different mobile devices at home and using them at school is welcomed by them" (2019, p.200).

Using examples taken from learners' real lives was highlighted on a number of occasions. Romero saw this as a factor when selecting images to use (2020, p.40), while Bradley highlighted the importance of "concrete" examples (2019, p.176). Mohamedzadeh et al. noticed that dyslexic learners knew the first letter of their names with less difficulty than other letters. They then asserted that teachers should "include data drawn from the students' lives (e.g., the names of their parents and friends)" (2020, p.29).

4.2.8 Developing Independence

Actively developing learners' independence was highlighted in five articles. This included studies of all three learning difficulties being supported in this paper (e.g., Alison et al., 2017; Erkan et al., 2012; Holguín and Rezabala, 2020).

Alison et al. and Chiang and Liu both focused on technology and noted that it allowed learners "to locate the answer with minimal to no teacher assistance" (Alison et al., 2017, p.99) and "enhanced students' independent learning" (Chiang and Liu, 2011, p.203). This was also highlighted by Holguín and Rezabala, who saw touchscreens as supporting "autonomous learning" (2020, p.23).

Padmadewi and Artini pointed out that the process of decreasing the amount of teacher guidance to develop more independence can often be a slow process (2017, p.167).

4.2.9 Using Learners' First Language

Five articles highlighted the positive role learners' first language can play in learning a second language when teaching those with SEN. It featured in studies investigating dyslexia and ASD (e.g., Diaz-Ducca, 2016; Padmadewi and Artini, 2017).

Diaz-Ducca noted that using learners' first language can be a component of explicit teaching (2016, p.20), while Padmadewi and Artini saw learners' first language as a tool that can be utilised when "the concept is not understood" (2017, p.163).

In one activity that Romero promoted, the flashcards had the word in English on one side and the meaning in Spanish, the learners' first language, on the reverse (2020, p.40).

4.2.10 Gamification

Gamification, and its beneficial role, was a feature of five articles, focused on the three different examined SEN (e.g., Erkan et al, 2012; Gałazka and Dick-Bursztyn, 2019; Holguín and Rezabala, 2020).

Games utilising technology were included in the successful interventions in a number of studies, including Holguín and Rezabala and Erkan et al. Holguín and Rezabala highlighted that "educational technology and gamification show their great articulation capability" (2020, p.24) while Erkan et al. wrote that "several computer games … supported the teaching/learning procedures" (2012, p.533).

Fišer and Kałdonek-Crnjaković highlighted that games can be combined with the multisensory approach with positive effects (2022, p.39). Gałązka and Dick-Bursztyn related that games can be used when teaching vocabulary and grammar and learners can be motivated by this, noting that they "pay attention to details so they are successful in these games" in the case of autistic learners (2019, p.203).

4.2.11 Classroom Management

Classroom management was highlighted in five studies (e.g., Bradley, 2019; Gałązka and Dick-Bursztyn, 2019). It was highlighted in studies focusing on dyslexia, ADHD and ASD.

One element of classroom management described is behaviour management, with a focus on the use of praise. Gałązka and Dick-Bursztyn wrote that learners "want to be rewarded" (2019, p.205). Positive language and appreciation from teachers were an integral part of the learners' progress in Erkan et al. They found that "what Deniz [learner] needed was appreciation by his teachers" and therefore "positive teacher behavior play[ed] a significant role" (2012, p.533).

Consideration of seating arrangement was highlighted by Diaz-Ducca, who found that the learner in her study was aided by sitting near to the teacher (2016, p.19).

Routine was also mentioned by Gałązka and Dick-Bursztyn as "crucial" to making learners feel "safe" (2019, p.205). Concentration was also developed as a result of "establishing routines" in Holguín and Rezabala's study (2020, p.26).

With these 11 key elements or categories from the searched literature, we can see there is a range of different techniques currently being used. However, we must evaluate these techniques and this literature in order to better understand how they can be applied to EAL classes in different contexts.

Chapter Five: Discussion

How to effectively support SEN (Special Educational Needs) learners in EAL (English as an Additional Language) classes is the general aim of the study. A more specific target is to support them in the communicative language classrooms that have become more prominent. Communicative style teaching, including CLT (Communicative Language Teaching) and TBLT (Task-Based Learning Teaching), has become more prominent across the board, including in Greater China (Hu, 2002, cited in Copland et al., 2014, p.740). As learners with dyslexia, ADHD (Attention Deficit Hyperactivity Disorder) and ASD (Autism Spectrum Disorder) have challenges with communication, this adjustment comes with challenges for the learners and their teachers.

To help us understand what interventions have already proved successful and how these can support learners and teachers within Greater China, as well as potentially more broadly, a systematic review of current literature was carried out, which found a number of different techniques. As many of the studies were small-scale, this systematic review proved to be beneficial as it allowed for finding interventions that worked for a range of different learners. As it is highlighted that all SEN learners experience different challenges at different levels, there may be some interventions that support an individual learner, but may not support other SEN learners (Sparks et al., 1993, cited in Sparks, 2006, p.545). By putting a number of these articles together we can make more generalised suggestions.

5.1 Research Question 1: What techniques are being used successfully around the world to support EAL learners with SEN?

Many of the articles that were focused upon to ascertain successful techniques were based in Europe. Of the eight European countries, not including Turkey, four of them were graded as having very high proficiency in English and three of them were graded as having high proficiency in English, with one country not included in the proficiency study. Of other countries included in the literature search, two others were showed as having high proficiency Therefore 11 articles were based in countries with very high or high proficiency, with one being a native-speaking English country, the USA. The other countries have moderate or low in proficiency (EF Education First, 2022). This may have no significance. However, if it is suggested that these countries have more established English teaching programs, curriculums and strategies, it may also indicate that is easier to support SEN learners when there are already successful teaching practices set up.

Technology was one of the key elements of the interventions researched. As SEN learners' needs are varied, technology can be beneficial as it can be tailored, adapted and differentiated to meet their individual needs (Chiang and Liu, 2011, p.202). Technology has also been repeatedly shown to increase the motivation for SEN learners (e.g., Erkan et al., 2012, p.532; Holguín and Rezabala, 2020, p.12). This strength aligns with Dörnyei who identifies that motivation is essential for successful language learning (2001, p.1). Technology, including reading apps, IWBs and games, were highlighted in the studies found. It is interesting to note that AI, more generally, was not highlighted in the studies found.

Although, text-to-audio was highlighted in a number of studies (e.g., Košak-Babuder et al., 2019; Alison et al., 2017), other aspects of AI such as Chatbots and 'Automatic Formative Assessment' tools, such as Grammarly, were not explicitly mentioned. Research found that AI has the ability to support learners by providing ongoing support. This can be especially helpful when teachers are taking care of a large number of learners and cannot answer all questions that learners have in a timely manner. It can also provide explicit feedback to writing which learners complete (Holmes and Tuomi, 2022, p.553). Large class sizes are a factor in China (Deng and Harris, 2008, p.202). AI is a fast-growing area of technology. For example, ChatGPT has grown exponentially in the last nine months since its launch in November 2022 (Derico and Kleinman, 2023). As the literature search for this study was completed in May 2023, it may be that ChatGPT, and similar programs, was not yet appearing in peer-reviewed and published work regarding its benefits for SEN learners in EAL. As technology is constantly adapting and further opportunities for it to support SEN learners are ever-evolving and being created, this systematic review could be repeated regularly to see further development in SEN support in the EAL field.

Multisensory techniques and technology were the most common elements of the successful techniques found. Sometimes, used together, they seemed the most reliable techniques to maximise learning achievement, as well as positive feeling among learners (Gharaibeh and Dukmak, 2022, p.513). As they were often used together, for example reading-aloud technology allowing learners to read the words at the same time as they hear them, it is hard to possible to determine which is more significant. Comparison would need to be made between the learners following the teacher reading and those using the audio from software, which allows for pausing and repeating at ease. This would help us to understand which is

more significant – the auditory-visual element or technology. It is also interesting to note that these techniques are often also used in teaching SEN learners within non-EAL settings, such as the UK and the USA. The Orton-Gillingham Technique of using multiple senses to aid phonics awareness dates back as far as the 1980s and has led to a number of different teaching techniques that are widely used to teach reading skills to dyslexic learners in their first language (Cox, 1985, p.187). This suggests that EAL educators can look towards non-EAL settings for successful techniques as these may be transferable. The correlation between the techniques found in the literature regarding EAL and the techniques used in non-EAL settings may be influenced by the fact that the search only included studies published in English. They may therefore be more impacted by practices in English-speaking majority countries, such as the USA and the UK.

It is interesting to note that some of the successful techniques that have been identified to support EAL learners with SEN in our classrooms may actually support outside of that environment. Three of the key techniques that can fit into this group include those for developing independence, metacognitive skills and providing opportunities for interaction. By developing independence, this directly supports learners in their real life, as well as in an educational situation. For example, it will allow learners to make their own decisions, but also allow them to organise their own learning, even doing homework as they have had practice with self-pacing. This was seen when needing to complete tasks using technology (e.g., Pfenniger, 2015, p.127). By offering opportunities to our SEN learners in our classes to develop study skills, they will be able to apply these to learning other subjects. For example, mind maps and note taking are skills that can be used in a number of fields (Liontou, 2019, p.225). Providing opportunities to develop interactive skills in a safe and controlled

environment is clearly beneficial. Autistic learners and learners with ADHD are known to have challenges making and maintaining friendships and therefore we can help them to practice skills that will enable them to better do this in the outside world (Stormont, 2001, cited in DuPaul and Stoner, 2014, p.8). It can therefore be said that teaching of transferable skills must be a central part of teaching SEN learners and EAL teaching should be involved in these endeavours. It can also be seen that the ability for these elements to be incorporated into English language teaching shows that learning a second language can be beneficial for SEN learners and is not adding further burden to them as some have argued (Kormos and Smith, 2012, p.xi; Schneider and Crombie, 2003, p.1), but actually helps them in other areas of their development.

Another of the two strategies identified seem to be contradictory in some regards. Both explicit teaching and gamification were identified in a number of articles but they differ significantly, at least on a surface level. While explicit teaching may include references to metalinguistic information and explaining language, giving feedback and emphasising spelling patterns, gamification indicates more of a relaxed environment with learning happening implicitly without learners being conscious of it (Gałązka and Dick-Bursztyn, 2019, p.201). Both of these have benefits in the face of challenges that SEN learners have. As these learners can experience some challenges with implicit teaching and using procedural knowledge, teaching new content, concepts and vocabulary explicitly is one way to support these learners (Tribushinina et al., 2022, p.354). This practice of explicit teaching may also benefit those learners with difficulties regarding attention issues. Due to attention challenges, implicit teaching of new vocabulary, sentence structures and phonological patterns can lead to some subtle differences or information being missed. Explicit teaching removes this subtlety. While

gamification can be seen as a technique more linked to implicit learning, it can also combat attention issues by creating an incentive to focus, listen and look for that subtle information (Gałązka and Dick-Bursztyn, 2019, p.203). Therefore, it can make learners motivated to pay more attention and focus in English classes, leading to better learning results. Gamification also has the added benefit of, if used alongside collaborative learning techniques, developing learners' interpersonal skills – another one of the key challenges experienced by SEN learners. Although these two strategies of explicit teaching and gamification may be seen to be contradictory, these techniques can be incorporated. With explicit teaching being used as the technique during language presentation, it can precede gamified practice. This practice can encourage learners to use the language and increase the chances it will be incorporated into short and long-term memory after being used in working memory.

The techniques identified as successful from the literature do not seem overly radical. Many of these techniques have been discussed with regards to general teaching of EAL. For example, Harmer's highlighted the use of materials that use different senses. He highlights realia, pictures, boardwork and cuisenaire rods (2007, p.177, p.178, p.180, p.183, p.187). Technology has also been discussed within the EAL field. It has been argued that this has become of greater consideration to teachers due to Covid-19 and distance learning (Stickler, 2022, p.22) This indicates that the techniques found in the studies examined in this paper are beneficial for all learners, irrespective of whether they have any SEN traits. This could indicate that inclusive methods are possible and achievable for teachers, provided they get sufficient training.

Of the articles examined to collect the successful intervention strategies for SEN learners in an EAL classroom, only three focused on ADHD (Hvozdíková, 2011; Holguín and Rezabala, 2020; Liontou, 2019). This may limit the validity of the strategies for these learners. It also leads to questions regarding why there are so few studies. ADHD is often labelled as a behavioural disorder and one that doesn't directly impact language learning (Shaywitz et al., 1995, cited in DuPaul and Stoner, 2014, p.80; Sparks et al., 2005, cited in Kormos and Smith, 2012, p.66). This may lead to researchers not believing it is important to focus on. It may also reflect a stigma that ADHD is due to bad parenting and should not be solved in the classroom, or that it is behaviour problem that medication, rather than teaching techniques, can solve (Ward et al., 2021, p.310; Norvilitis and Fang, 2005, p.419). As the literature search only included peer-reviewed articles it could also be that these articles may reflect only what journal editors perceive as valuable to the wider academic community. This means that this study may be skewed towards the current foci of SEN. By including grey literature, we may have been able to get more data and information regarding ADHD. We can see the challenges of learners with ADHD with attention, interaction and memory would clearly impact on learning in a classroom situation so further research is definitely warranted.

The techniques found were largely from research focused on young learners, with only two articles looking into supporting adult learners. From research, it has shown that adult learners with some of these disorders will experience different challenges (Ellison, 2002, p.12). It may therefore be that applying some of the techniques for young learners may not be as beneficial for adult learners. Therefore, this review's findings may not be immediately applicable for educators of adult learners. It could also indicate that learning EAL is very difficult for these

SEN learners and as adults, who are not working towards a compulsory exam, they decide not to continue. This limits the amount of research that can be done with them.

5.2 Research Question 2: What techniques to support learners with SEN learning English are being highlighted in Greater China?

With 400 million English language learners in Greater China and a historical stigma towards SEN going back to Confucius, this paper wanted to find out the status of how learners with SEN are currently being supported within this context (British Council, n.d.; Deng et al., 2001, p.296).

From the literature search there was only one article studying a context within Greater China, Taiwan in particular (Chiang and Liu, 2011). This article focused on dyslexia. It is yet to be seen whether this is representative of Greater China in general. Taiwan may be atypical compared to other parts of Greater China, including mainland China. For example, it has a clear definition of “learning disabilities” and diagnosis criteria (Hsiao, 2011, p.50). Therefore, the techniques being highlighted in this article may not be representative of what is happening, and what is effective, in the rest of Greater China.

As it is only one study focusing on dyslexia, the techniques may not be helpful to understanding and supporting ADHD and ASD. Autism has only been recognised as a disability since 2006 in China and is often seen as something that seriously inhibits learners’ ability to learn (Yu et al., 2020, p.1540; Gu, 2007, as cited in Zhang and Spencer, 2015, p.170).

Therefore, within a Greater China context, techniques to support autistic learners learning English may be perceived to be less important. However, as we have seen removing learners' ability to engage with English language learning may impact their future prospects due to English's status as a global language. In relation to ADHD, there is a significant stigma that may limit researchers' motivation to do this research (Norvilitis and Fang, 2005, p.419).

The limited number of articles from Greater China is also indicative of the limited number of learners with SEN being taught in mainstream schooling in China (Deng et al., 2001, p.296; Huang et al., 2013, p.1998; Song et al., 2013, p.210).

Chiang and Liu's article, the sole source of data from Greater China, focused on interventions to support reading abilities in high school among dyslexic learners. The specific techniques highlighted were multisensory techniques alongside technology, as well as developing independence and metacognitive techniques and offering opportunities for repetition (2011, p.200, p. 202, p.203). With the focus on supporting reading abilities in high school, it seemed to be that the overall aim may be to support success in exams. This reflects a general focus within the Chinese education system (Tzeng, 2007, p.170).

While these factors may have led to the limited research from Greater China, it may also be due to the limitations of this study, with only being able to use research in English. This may have excluded data and information from research written in Mandarin Chinese. Therefore, we may be missing data that might allow us to answer this question more effectively. If this is the case, it does mean that international teachers in Greater China do not have access to know more about current practices in their teaching context.

5.3 Research Question 3: To what extent can these techniques be integrated into Communicative Language Teaching in Greater China?

Communicative Language Teaching is a prominent methodology in English language teaching, including in Greater China (Hu, 2002, cited in Copland et al., 2014, p.740). This question therefore focused on how the successful techniques can be applied to support SEN learners in these classes.

One of the techniques that was identified was offering opportunities for interaction. This strongly suggests that research that is currently being done does not see communicative language teaching as beyond the reach of learners with SEN. It highlights the role that pairwork and groupwork can play in supporting SEN learners to have more opportunities to use the language communicatively (Padwadewi and Artini, 2017, p.168). Pairwork and small groupwork, and its successes, align with the anxiety that SEN learners are known to experience (Dal, 2008, p.440; Szatmari and McConnell, 2011, p.330). It can be argued that by using pairwork within CLT, SEN learners do not need to speak in front of large classes. In Greater China where classes can typically be very large, speaking in this environment may dramatically increase learners' affective filter, while working with a supportive partner can offer many advantages (Deng and Harris, 2008, p.202).

Another element of the successful techniques that can be applied to CLT to support learners within a classroom environment is related to the selection and design of materials. Research

showed that authentic materials were beneficial for learners and this can be clearly applied to CLT (Ghoneim and Elghotmy, 2021, p.27). For example, using real menus and pictures of locations that are familiar to the learners can provide motivation as well as reduce some anxiety as not everything is unfamiliar. This is further emphasis that techniques are most successful and motivating for SEN learners when they have the ability to support these learners beyond the classroom as well.

If using authentic materials that are relevant to the learners' real lives is a factor that can further enhance the effectiveness of CLT for SEN learners then there is an assumption that teachers should be taking the time to move beyond any generic textbook that they may be working from to use materials that are more related to the context and situation of the learners.

One of the most significant and common intervention strategies was related to technology. Technology was used in interventions in terms of using apps, Interactive White Boards (IWBs), and reading software (Alison et al., 2017; Gałązka and Dick-Bursztyn, 2019, p.201; Liontou, 2019, p.224). A review of technology-involved task-based learning was a subject of study by Chong and Reinders (2020). This clearly shows that technology can play a significant role in CLT methodologies, including task-based learning. This demonstrates the compatibility of technology, that has proved itself beneficial to SEN learners, with CLT. This is something that could be explored further in later action research.

One of the successful techniques that seems most opposed to being integrated into CLT is explicit teaching. CLT argues that learning will happen implicitly as learners use the language

and become more familiar with it while explicit teaching removes any implicitness from the learning process. However, explicit teaching techniques could also come in the form of how feedback is provided to learners after a communicative activity has been implemented, or how instructions are given (Bradley, 2019, p.174). For example, when setting a task such as to use a map to ask for and give instructions, we may want to explicitly remind our learners with SEN of the type of language and words they should be using before the activity begins. In terms of feedback, we might want to explicitly tell them which sentence had an error, rather than being more general and expecting them to identify when they made that mistake. This relates to challenges with attention and self-monitoring. Successful techniques involved in error correction in EAL are a potential area to look into more. As learners with SEN are susceptible to feelings of anxiety and humiliation, error correction must be handled carefully (Dal, 2008, p.440; Szatmari and McConnell, 2011, p.330; Ellison, 2002, p.10). However, we cannot expect our learners, with or without SEN, to continue developing if they are not allowed to make mistakes and be corrected. It is interesting that the studies didn't focus on how this could be done in a significant way.

Wider EAL literature has also tried to balance the role of explicit teaching with the importance of CLT. Long's distinction between focus on form and focus on forms is symbolic of this (Long, 1991, cited in Benati, 2021, p.7). Focus on forms is more related to explicit teaching of grammatical forms and structures in isolation. Focus on form, on the other hand, is an attempt to balance the need to teach grammatical forms with focusing on the meaning during communicative activities (Benati, 2021, p.7). This is a demonstration that the tensions found between the successful techniques to support SEN learners in EAL are the same tensions that are being discussed in wider EAL teaching.

Communicative Language Teaching also often aligns with teaching methodologies where the learners' first language is not significantly used. This contrasts with the techniques using learners' first language which was found to support SEN learners. It suggests that CLT may require some alterations and there may need to be some additional support provided to allow it to work for SEN learners.

5.4 Considerations for Successful Implementation

All the techniques that have been identified should all be considered when teaching learners who have the traits of those with SEN. In order to effectively use them in our classrooms, there are a number of considerations that teachers must make to maximise their use.

Encouraging interaction among learners with SEN, especially those with significant communication challenges, is highly beneficial, however it has also been identified as challenging (Copland et al., 2014, p.740; Guldberg, 2020, p.136; Nijakowska, 2010, p.127). Therefore, teachers cannot take it for granted that interactive activities will be successful. They therefore need to take concerted efforts to ensure they aid our learners. Teachers should consider carefully who the SEN learners should work alongside in tasks (Bradley, 2019, p.176). By putting them with the most appropriate fellow learner, the interaction can support development of their communicative skills, provide a social model and allow them to practice the language that will help them to develop their second language skills. Teachers working in a mainstream setting, with learners with and without the traits of SEN, will also need to think about how to ensure neurotypical learners understand their SEN counterparts to avoid

bullying or negative comments (Reraki, 2022, p.489). It is clear, therefore, that including SEN learners in an EAL classroom, means that teachers will need to teach more than just English, but also awareness. This will be especially important in a context, such as Greater China, where neurotypical learners may have little experience interacting with SEN learners.

Another key technique that is to be encouraged in EAL classes with SEN learners is using technology. However, if we are encouraging learners to independently use the technology, either within the classroom or beyond, it will be necessary to teach the learners how to use the software, app or program (Chiang and Liu, 2011, p.201). Therefore, the use of technology has to be planned thoroughly. It will also be important to ensure the learners are safe with the technology, especially if encouraging learners to use interactive software beyond the classroom.

Multisensory techniques were found to be highly effective in supporting SEN learners when learning grammar, vocabulary, reading and phonological skills and awareness (e.g., Gharaibeh and Dukmak, 2022; Romero, 2020). Teachers should consider incorporating this in their classes. However, it will be important for them to also maintain awareness of some of the challenges that learners have. Some autistic learners have heightened senses and therefore using too many senses at the same time may lead to overstimulation and an emotional breakdown (Gałązka and Dick-Bursztyn, 2019, p.200). It is clear that even with a list of successful techniques, teachers must also have a sound knowledge of the SEN and their general challenges, as well as the specific challenges faced by their individual learners.

Another important consideration for all teachers to ensure success of all the other techniques is effective classroom management, including behaviour management and praise, seating arrangement and establishing set routines. This was not a common feature in all the literature, but emotional factors are highly influential to successful language learning. The Affective Filter can be lowered if learners feel comfortable in the class and supported by the teacher. One key way of achieving this is through praise and having a set routine in class (Erkan et al., 2012, p.533; Holguín and Rezabala, 2020, p.26). It could be suggested that these basic classroom management and structure principles are more significant to the success of these techniques than the literature might suggest. This may be especially true when implementing CLT that may be less familiar to learners, especially slightly older learners whose earlier language learning may have been with a more rote-learning style.

While these provided strategies can be implemented into many different curriculums that teachers will be using, they will not be successful if teachers are not provided with training to help them better understand the needs of SEN learners, the challenges they have and how they might impact their learning. This is an indication that this research cannot support teachers alone and training will also need to be carried out to support teachers, who can in turn support their learners.

While finding these techniques and considering their applicability to CLT adds something to the discussion on how to support SEN learners, there is an assumption that techniques successful in one context and for one group of learners is applicable to other contexts and learners. This is one weakness of a general systematic review as it is well documented that no

two SEN learners are identical. This must be taken into consideration when teachers evaluate the techniques and their applicability to their own learners.

This research has aimed to find techniques that are successful and can be incorporated into ELT classrooms, especially those taking a communicative approach. The key strategies were technology, multisensory techniques, building in interaction alongside the teaching metacognitive skills, repetition and recycling, incorporation of real-life elements, explicit teaching, and use of the learners' first language and gamification. However, it is not a case of just implanting techniques in classes. Instead, teachers will need to gain an awareness of the challenges and how these techniques can be implemented to support SEN learners when learning EAL.

Chapter Six: Conclusion

With conservative estimates of the Chinese general population with disabilities at 5% and 400 million English learners in China, logic, and this research, assumed that Greater China has many learners with dyslexia, Attention Deficit Hyperactivity Disorder (ADHD) or Autism Spectrum Disorder (ASD) in English as an Additional Language (EAL) classes, whether formally diagnosed or not (British Council, n.d.; Deng et al., 2001, p.293). However, teaching Special Educational Needs (SEN) learners is a relatively new concept for many teachers and institutions, especially in parts of rural China (Deng et al., 2001, p.296). Although initiatives were established approximately 30 years ago, they did not make an immediate significant impact (Huang, Jia and Wheeler, 2013, cited in Clark et al., 2019, p.135). Therefore, this paper aimed to support teachers, and their learners with diagnosed or undiagnosed, by identifying a range of strategies that can be incorporated into classes.

This need was highlighted when previous literature emphasised the various challenges that learners with dyslexia, ADHD and ASD experience. Difficulties were identified that would make Communicative Language Learning challenging, including social interaction and understanding non-verbal cues (e.g., Copland et al., 2014, p.740; Guldberg, 2020, p.136; Nijakowska, 2010, p.127). Cognitive challenges, such as memory and attention, were identified that may impact learning English in the classroom (e.g., Alloway et al., 2009, p.607). Other challenges were highlighted including language skills, with difficulties with reading and writing and negative emotions that may inhibit effective language learning (e.g., Bell and Tudhope, 2016, p.155; Dal, 2008, p.440).

In order to understand the successful techniques that are being used in EAL around the world, a systematic review was carried out, identifying 24 studies which were analysed. After analysis, 11 common techniques were identified, with the two most prominent techniques being multisensory and technology-based. However, the review only searched for literature published in English due to researcher limitations. This may have led to only one article from Greater China being included. It would therefore be beneficial to involve further researchers in efforts to replicate this review with literature written in other languages. This will allow us to see if different techniques become more prominent when broadening our view by looking at research from a wider range of countries or contexts.

There were some gaps in the literature. There were also only three articles found that addressed ADHD in EAL classrooms. This could be indicative of the attitude towards ADHD within the educational field – that it is a behavioural disorder. However, it has an impact on our classrooms, as found in the literature review. Due to the prevalence of ADHD and its impact on learning potential, it would be worthy of further research (ADHD UK, n.d.). Another gap in the literature found was research into supporting adult learners. This is an area for further research as the adult market for EAL is significant.

The techniques found in the literature raised several interesting issues. When considering how these techniques can be incorporated into CLT, some were easily aligned such as technology and activities, examples and materials related to learners' real life. However, one of the key techniques, using explicit teaching methodologies and strategies, was not directly related to CLT. However, it does mirror conversations happening among academics regarding supporting effective second language acquisition among the wider language learning

community (Benati, 2021, p.7). This reflects that many of the techniques were not unique to those with SEN and proved beneficial for neurotypical learners to varying degrees. This suggests that inclusive teaching, including that within a CLT classroom, is possible and the techniques that support learners with SEN will prove a help, rather than a distraction, to other learners. This should encourage more teachers and institutions to consider supporting these inclusive teaching techniques.

It was also noted that some of the strategies identified, such as technology and multisensory techniques, were also reflective of those practices used in education beyond EAL. This suggests that one way to gain further insight into successful methods to support learners with SEN in EAL, is to turn to the wider educational industry, as Reraki did in their paper (2022, p.483).

As only one article was identified from Greater China, it will be important to assess the discovered techniques' success in the context of Greater China. Therefore, a follow-on from this systematic review would be to implement these techniques in a genuine communicative classroom with learners with, and without, the traits of SEN to complete an action research study to discover if the techniques that proved effective elsewhere are as successful within our Chinese context. We could then see if learners' achievement in, and attitude towards, EAL classes improved.

However, one of the possible impediments to these techniques being effectively implemented to support learners with SEN is a lack of training regarding the needs of learners with learning difficulties and how to implement these inclusive strategies successfully.

Therefore, another opportunity for further research is to focus on the training of teachers. Training on how these techniques can be communicated, explained and demonstrated to EAL teachers in order to support our diverse learners can be implemented and reflected upon, to see the impact on teachers' confidence, learners' achievement and attitudes towards English language learning.

This paper aimed to discover techniques currently being used in a range of EAL settings to understand better how teachers of English in China can support their SEN learners, implement the inclusive practices being promoted from governmental level and build their confidence with managing CLT classes including learners with learning difficulties. While the techniques identified have the ability to provide more resources for teachers, training and reflection within the Chinese context is essential for genuine, long-term and maximised impact.

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Appendices

Appendix 1

Student ID: 200037151

Article Title	Author	Year	Country	Age of Participants	Number of Participants	Target Disorder	Multisensory	Technology	Real life/Student Interests	Actively trying to develop independence	Using L1	Explicit teaching	Providing opportunities for interaction	Gamification	Opportunities for repetition, recycling and reviewing	Developing metacognitive and metalinguistic skills and knowledge	Classroom Management
Technology-Based Sharing Story Reading for Students with Autism Who Are English-Language Learners	Caryn Alison, Jenny R. Root, Diane M. Browder, Leah Wood	2017	USA	8-10 years old	3	Autism	✓	✓		✓						✓	
Case Study: Second Language Acquisition with Asperger Syndrome in a University Setting	Monica Bradley	2019	Costa Rica	University	1	Asperger Syndrome			✓			✓	✓				✓
Evaluation of the Benefits of Assistive Reading Software: Perceptions of High School Students With Learning Difficulties	Hsin-Yu Chiang ScD & Chien-Hsiou Liu PhD	2011	Taiwan	High School	15	Dyslexia	✓	✓		✓					✓	✓	
Report of Learning Experiences in Didactical Conditions for Teaching Grammar, Vocabulary, and Pronunciation to Katty, a Student with Dyslexia	Jenara A. Diaz-Ducca	2016	Costa Rica	Adult (25 years old)	1	Dyslexia	✓				✓		✓		✓		✓
Improving Vocabulary in English as a Foreign Language among Students with Dyslexia Using Hybrid Technology	Sigal Eden & Livnat Shmila	2023	Israel	9-12 years old	106 (50 with Dyslexia)	Dyslexia	✓	✓							✓		
Croatian English as a Foreign Language Teachers' Knowledge about Dyslexia and Teaching Students with Dyslexia: Is Their Practice Inclusive and Dyslexia-Friendly?	Zrinka Fišer and Agnieszka Kałdonek-Crnjaković	2022	Croatia	Primary School & Secondary School	16	Dyslexia	✓				✓	✓	✓	✓	✓	✓	
Supporting English Language Teachers in Teaching Autistic Primary School Learners	Alicja Gałązka and Marta Dick-Bursztyn	2019	Poland	Primary School	10	Autism	✓	✓	✓					✓			✓
Effect of computer-based multisensory program on English reading skills of students with Dyslexia and reading difficulties	Mahmoud Gharaibeh and Samir Dukmak	2022	United Arab Emirates (UAE)	9-10 years old	60	Dyslexia	✓	✓								✓	
Strengthening Socialisation in TEFL Classroom through the Means of Creative Drama with the Emphasis on ADHd Students	Silvia Hvozdíková	2011	Slovakia	Primary school	Doesn't specify	ADHD	✓						✓				
Dyslexia and English as a Foreign Language in Norwegian Primary Education: A Mixed Methods Intervention Study	Christopher Flaten Jarsve and Dina Tsagari	2022	Norway	10-11 years old	5	Dyslexia	✓	✓				✓					
Inclusive practices for dyslexic language learners: an intervention study in the Greek EFL setting	Maria Reraki	2022	Greece	10-11 years old	3 classes (at least 1 dyslexic learner per class)	Dyslexia	✓	✓					✓			✓	
The effect of read-aloud assistance on the text comprehension of dyslexic and non-dyslexic English language learners	Milena Košak-Babuder, Judit Kormos, Michael Ratajczak and Karmen Pižorn	2019	Slovenia	11-12 years old	280 (47 with Dyslexia)	Dyslexia	✓										
A Case Study of a Turkish Dyslexic Student Learning English as a Foreign Language	Esra Erkan, Irem Kizilaslan and Sunay Yildirim Dogru	2012	Turkey	14 years old	1	Dyslexia	✓	✓		✓				✓	✓	✓	✓
Foreign Language Learning for children with ADHD: evidence from a technology-enhanced learning environment	Trisevgeni Liontou	2019	Greece	9-12 years old	10	ADHD	✓	✓							✓	✓	

Article Title	Author	Year	Country	Age of Participants	Number of Participants	Target Disorder	Multisensory	Technology	Real life/Student Interests	Actively trying to develop independence	Using L1	Explicit teaching	Providing opportunities for interaction	Gamification	Opportunities for repetition, recycling and reviewing	Developing metacognitive and metalinguistic skills and knowledge	Classroom Management
Using a VAKT Based Program to Develop EFL Primary Stage Dyslexic Pupils' Reading Skills	Nahed Mohammed Mahmoud Ghoneim and Hebe Elsayed Abdelsalam Elghotmy	2021	Egypt	5th Grade Primary School	6 teachers + 40 students	Dyslexia	✓		✓			✓		✓			
Teaching English to Students with Dyslexia in Iran: A Multiple-Case Study	Shirin Mohamadzadeh, Elaheh Sotoudehnama, S. Susan Marandi & Mahnaz Akhavan Tafti	2020	Iran	8-12 years old	5	Dyslexia	✓		✓			✓					
Teaching English to a Student with Autism Spectrum Disorder in Regular Classroom in Indonesia	Ni Nyoman Padmadewi & Luh Putu Artini	2017	Indonesia	10 years old	1	Autism Spectrum Disorder	✓			✓	✓		✓				
MSL in the digital ages: Effects and effectiveness of computer-mediated intervention for FL learners with dyslexia	Simone E. Pfenninger	2015	Switzerland	9-11 years old	40 (20 with Dyslexia)	Dyslexia	✓	✓							✓		
Lazy or Dyslexic: A Multisensory Approach to Face English Language Learning Difficulties	Yanilis Romero	2020	Columbia	14-16 years old	10	Dyslexia *undiagnosed	✓		✓		✓		✓			✓	
Instructing Malaysian Children with HFASD in English as a Second Language	A'ina Athirah Ahmad Sabri, Rabiah Tul Adawiyah Mohamed Salleh and Bruno Di Biase	2021	Malaysia	8-12 years old	3	High-Functioning Autism Spectrum Disorder						✓					
Facilitating positive L1 transfer through explicit spelling instruction for EFL learners with dyslexia: an intervention study	Elena Tribushinina, Zoë op ten Berg & Sonja Karman	2022	Netherlands	12-14 years old	40	Dyslexia					✓	✓			✓	✓	
Touchscreens and teaching English to children with attention deficit disorder: language practices and recreational games	Jhonny Saulo Villafuerte Holguín & Martha Elena Alonzo Rezabala	2020	Ecuador	6-10 years old	3	Attention Deficit Disorder	✓	✓		✓				✓			✓
Improving Oral Reading Fluency of Struggling Readers with Assisted Repeated Reading Using Graded Readers	Teoh Ci Xin, Melor Md. Yunus	2020	Malaysia	9-10 years old	7	Dyslexia *undiagnosed	✓						✓		✓		
Effectiveness of the Picture Exchange Communication System in Teaching English Vocabulary in Children with Autism Spectrum Disorders: A single-subject study	Zahra Zohoorian, Mitra Zeraatpishe & Nader Matin sadr	2021	Iran	9-12 years old	2	Autism Spectrum Disorders	✓								✓		