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AN INVESTIGATION OF TWICE EXCEPTIONALITY (2E) IN THE UK CONTEXT: THE PARADOXICAL COMBINATION OF EXCEPTIONALITIES

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**AN INVESTIGATION OF TWICE EXCEPTIONALITY (2E) IN THE UK CONTEXT: THE
PARADOXICAL COMBINATION OF EXCEPTIONALITIES**

by

YUNUS EMRE DEMIR

A thesis submitted to Plymouth University
in partial fulfilment for the degree of

DOCTOR OF PHILOSOPHY

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AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

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ABSTRACT

AN INVESTIGATION OF TWICE EXCEPTIONALITY (2E) IN THE UK CONTEXT: THE PARADOXICAL COMBINATION OF EXCEPTIONALITIES

Yunus Emre Demir

Twice-exceptionality (2E) refers to individuals who possess both exceptional intellectual abilities and disabilities. This qualitative exploratory study primarily investigated the experiences of 2E learners and teachers who have previously taught, or currently teach, students with twice-exceptionality. The study examined such lived experiences with reference to philosophical, sociological and socio-cultural theoretical concepts. A combination of interviews and self-administered questionnaires was utilised for data collection following a protracted recruitment process in COVID-19 pandemic and post-pandemic conditions which, it was assumed, had limited consent to participate to seven teachers and five students based primarily in Plymouth. An indicative content analysis of the students' data and reflexive thematic analysis of teachers' data illustrated the importance of acknowledging of paradoxical combinations of ability and disability with additional conditions (e.g., eating disorders and depression). Socialisation difficulties in 2E students with autism and organisational skill problems in high potential students with ADHD were identified. Some teachers observed different characteristics in 2E students such as overconfidence and creative writing skills. However, it was also found that participating teachers were unaware of aspects of 2E and tended to avoid classifying their students as 2E or gifted. Thus, the generation of data on the lack of awareness of 2E provided an additional benefit and contribution to knowledge.

The study emphasised the importance of tailored support and inclusive practices, intending to ensure that the voices of 2E students and teachers are heard and to determine their needs. With reference to empirical data and the existing literature, it will contribute the recognition and broader understanding of twice exceptionality, offering valuable insights for educational practitioners, policymakers, and researchers. Further research into this complex intersection of issues in diversity, inclusion, and twice-exceptionality is encouraged to enhance inclusivity and educational systems for 2E individuals.

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LIST OF ABBREVIATIONS IN ALPHABETICAL ORDER

ADHD: Attention Deficit and Hyperactivity Disorder

CEC: Council for Exceptional Children

COVID-19: Corona Virus Disease 2019

DCSF: Department for Children, Schools and Families

DfE: Department for Education

DfES: Department for Education and Skills

DQA: Deductive Qualitative Analysis

ERIC: Educational Resources Information Centre

G&T: Gifted and Talented

IEPs: Individualised Education Plans

IQ: Intelligence Quotation

NACE: National Association for Able Children in Education

NAGC: The National Association for Gifted Children

NAGTY: National Academy for Gifted and Talented Youth

NCTS: The National Commission on Twice-Exceptional Students

Ofsted: Office for Standards in Education

SEN: Special Educational Needs

SEND: Special Educational Needs and Disability

SENCO: Special Educational Needs Coordinator

UPIAS: Union of Physically Impaired against Segregation

UREIC: University Research Ethics and Integrity Committee

UNESCO: United Nations Educational, Scientific and Cultural Organisation

WAIS: Wechsler Adult Intelligence Scale

WHO: World Health Organisation

WISC: Wechsler Intelligence Scale for Children

WPPSI: Wechsler Preschool and Primary Intelligence Scale

ZPD: Zone of Proximal Development

2E: Twice Exceptionality

CHAPTER 1: INTRODUCTION

Twice-exceptional students, who are both gifted and have specific learning disabilities, can have unique needs academically and socially, which may result in diverse experiences in educational settings. Recognising and understanding the specific needs of 2E students through a lens of diversity and inclusivity are crucial to foster inclusive education and enable them to realise their potential. The primary purpose of this study was to reveal and explore academic and social experiences of, and challenges faced by 2E students, by seeking the views of students and teachers. In this sense, the following primary research question will be addressed: What are the academic and social experiences of 2E students in schools in England and how do these experiences influence their learning process and social interaction? An additional benefit and contribution to knowledge, however, was the generation of data concerning the apparent lack of awareness of 2E and consideration of related issues within a sociological and philosophical context including stereotypes and misconceptions. A further contribution to knowledge was exploration of the applicability and effectiveness of theoretical concepts (e.g., inclusion, diversity, concept of difference) in educational and social settings. As a result, appropriate strategies can be proposed to better support 2E students in their educational processes and help them fully develop their potential.

The topics that are introduced in this section include the sources that form the basis of the research, the reasons for conducting the research, the purpose of the research, the contribution to knowledge that it will offer, the research questions, assumptions, scope, limitations of the study, and conceptual framework. The research is intended to establish a solid theoretical foundation and qualitative data, enabling a thorough exploration of 2E in England where the study's data is represented. The study has been driven by the desire to address a significant gap and offer practical implications for 2E that has not been extensively explored, providing new insights into the area and contextualising 2E within the theoretical framework.

The research questions of this study serve as the guiding framework, outlining specific inquiries that are aimed to address. These questions are carefully formulated to explore different dimensions of the research topic, provide focus and direction to the study, and

ultimately shed light on the diverse aspects of 2E to be revealed. The assumptions of the study are based on certain beliefs, premises, or theories that provide a foundation for the research design and methodology. The scope defines the boundaries of the research, clarifying the specific aspects and contexts that are included. The limitations, in a general sense, highlight constraints in the post-COVID-19 pandemic that impact the data collection process and pose challenges in the recruitment of participants, thus affecting the sample size. The conceptual framework created for the study is developed to illustrate the key concepts, relationships, and theories that underpin the research. It serves as a visual representation that aids in organising and structuring the study based on concepts, allowing for a coherent and systematic exploration of the research topic.

1.1. Background of the Study

Gifted and talented (G&T) individuals have always been a vital part of every nation as they constitute a national resource to be developed (Renzulli and Reis, 2021). It is important, therefore, to provide these individuals with an environment in which they can demonstrate their skills, including both academic and artistic, and to raise awareness – both socially and within education, to enable them to contribute to their community and potentially produce knowledge from which humanity would benefit (Koshy, 2002). In this regard, efforts to identify such individuals at the earliest opportunity, starting from preschool, can play a key role in facilitating their development and social contribution (Pfeiffer and Petscher, 2008).

The existence of gifted students with disabilities should also be acknowledged. Such students might show inability or experience difficulty in one or more areas while excelling in another area when compared to their peers (Neihart, 2008). However, efforts at diagnosing these students remain weak (Baum et al., 2017; Beckmann and Minnaert, 2018; Foley-Nicpon et al., 2013; Maddocks, 2018). It might be difficult to recognise twice-exceptional children as they can exhibit both learning disabilities and special abilities or talents simultaneously. Their disabilities, in some cases, may overshadow their talents while their talents can tolerate learning disabilities (Boothe, 2010). Expectations of highly able students with multiple exceptionalities may prove to be problematic as these can prevent such students from being understood or their needs from being met thoroughly (Berlin, 2009). Highly able learners are

mostly ignored when they show lower performance than expected in some areas and it is not thought that this lower performance might refer to a second exceptionality in gifted students (Reis et al., 2014). Teachers or parents may question whether these learners are high potential students or not when a disability seen in highly able children outweighs their giftedness (Baldwin et al., 2015; Reis et al., 2014; Robinson, 2017). Therefore, it must be remembered that some gifted children might have a dual exceptionality which is comorbid with being talented. In recent years, these kinds of students have been titled as twice-exceptional students or gifted students with dual/multiple exceptionalities (Chivers, 2012).

With the introduction of the term 2E into the literature, it is understood that Gifted and Talented (G&T) programmes focused solely on high academic potential are unlikely to suit 2E students given their more specific needs. A disability or learning difficulty may prevent them from being viewed as gifted individuals who could fully demonstrate their talents (Alloway et al., 2016; Lyman et al., 2017; Probst, 2017; Webster, 2015). These children have varied needs and require additional support compared to both gifted students and those with autism, attention deficit and hyperactivity disorder (ADHD), learning disability, etc. However, teachers might adjust the curriculum according to the needs of 2E students (Dempsey and Arthur-Kelly, 2007). For this to happen, awareness among educators should be increased by training teachers and parents about dual exceptionalities in able children. Autism, ADHD and learning disability can be seen in talented children as multiple exceptionality which is co-existent with giftedness (Foley Nicpon et al., 2011). Some students may overcome the disadvantages that these exceptionalities create, while others cannot; those who cannot manage their disabilities should be supported in order to minimise the barriers to developing their abilities (Amran and Majid, 2019).

Studies (e.g., Dimitriadis et al., 2021; Probst, 2017; Reis, Baum, and Burke, 2014; Yates and Boddison, 2020; Younis, 2020) indicate that there is a lack of awareness regarding the 2E student group and suggest that this issue may lead to a failure to adequately understand their learning needs and potential, resulting in inadequate provision of appropriate support and resources for these students. In order to raise awareness of 2E, future studies need to explore the main reasons for the lack of awareness by addressing misconceptions about 2E and how teachers can reduce prejudice against these students. For this reason, the current research

argues that the concept of 2E should be considered not only in the context of education but also in a social, historical, philosophical and theoretical framework.

The theoretical framework presented in Chapter 2 provides a more comprehensive perspective on 2E by exploring both the philosophical and historical origins of the underlying reasons behind the lack of recognition, misconception, and low awareness level of 2E, with the help of selected theories. When 2E is examined in a historical context, it becomes also necessary to investigate the history of giftedness and disability, which are components of 2E, and the historical development of SEND, inclusion practices and educational policies in the UK. It must be emphasised that, as the data obtained from this study were collected in England, the academic experiences of participating students and teachers are limited to the English education system. It is also crucial to highlight that it is not possible to speak of the UK as a single education system. Therefore, the data is not evaluated within the scope of the UK and cannot be generalised to the educational experiences in other countries within the UK, i.e. Scotland, Wales and Northern Ireland. However, the policy, practice and historical background related to 2E, or gifted and talented education, were addressed at the UK level, considering the aforementioned countries and comparing them where applicable.

When 2E is considered as an individual difference, theories serve as fundamental tools to comprehend these differences, raise awareness of diversity and provide a framework for how an inclusive environment can be created for 2E learners. Levinas' (1981) othering theory offers a perspective on how individual differences can be embraced and highlights the importance of accepting individual differences for contributions to society. Deleuze and Guattari (1987) also provide important insights into how the standardisation of diversity can have negative effects on inclusion. In the research, the argument that there should be no hierarchy between the exceptionalities (both abilities and disabilities) representing the paradoxical structure of 2E, and that ability should not take precedence over disability is also explained through the rhizomatic idea introduced by Deleuze and Guattari (1987). In addition, Foucault's (1982, 2008) theory of governmentality, and specifically neoliberal governmentality as involving different "networks of obedience" to those connected with pastoral power (Foucault, 2007: 184-185), explains how policy discourses influence social relations and the social norms that play a decisive role in people's perception of diversity standards; this theory can be used to explain why an understanding that prioritises ability and

stereotypes about 2E exists. In Vygotsky's (1993) theory, cultural tools, including conceptual tools provided by policy discourse, can mediate practice with the aim of supporting all individuals to achieve their potential. Vygotsky's (1978) socio-cultural theory suggests that increased exposure to social experiences and cultural practices contributes more effectively to cognitive development (Bøttcher and Dammeyer, 2012). Vygotsky (1978, 1993) also draws attention to the importance of the congruence between learners' needs and environmental conditions in terms of social and cognitive development and emphasises the necessity of understanding and addressing any incongruence for the learning process to be effective. Finally, the study also aims to bridge the gap between theory and practice by relating the real-life experiences of the participants to these theories.

1.2. Statement of the Problem

The term twice-exceptionality has remained complicated since it was coined, and consequently, 2E students are mostly misdiagnosed or undiagnosed as their needs and characteristics are confusing for educators (Schultz, 2012; Yssel et al., 2010). These students might also want to isolate themselves as they are misunderstood by not only teachers but also by peers and parents (Wang and Neihart, 2015). Identification, therefore, is the major problem affecting 2E students due to the lack of clear diagnostic criteria and adequate standard assessment tools (Brody and Mills, 1997). In order to eliminate the uncertainties in the diagnosis process, it is firstly necessary to determine and analyse the characteristics of 2E students (Krochak and Ryan, 2007; Newman and Sternberg, 2004; Silverman, 2009).

The 2E students have formed a distinct sub-group within special education among gifted students, which has been relatively complex and under-recognised compared to more identifiable groups within special education such as those with ADHD, autism, and learning disabilities, for the past two decades (Neihart, 2008). However, in the UK, there is no classification or diagnosis to provide education and support appropriate to the needs of 2E learners (Demir and Done, 2022). Despite the lack of a diagnostic category for 2E in the UK, it is crucial to provide individualised support and intervention strategies for individuals who exhibit twice-exceptional characteristics (Klingner, 2022). Failure to identify 2E students can lead to emotional difficulties, behavioural problems, social isolation, a decline in academic

achievement and difficulties in family relationships (Baum, Schader and Owen, 2017). Due to their exceptionalities, 2E students cannot be assessed within the same category as G&T students. Therefore, once they are identified, implementing a tailored programme that addresses their specific needs is highly likely to enhance their educational effectiveness in academic environments (Foley Nicpon et al., 2011; Neihart, 2008). The purpose of this programme is to empower students, enabling them to become aware of their abilities and encouraging them to reach a level such that they can overcome disadvantageous situations caused by their multiple exceptionalities. In recent years, most studies emphasise that an appropriate programme or policy based on the needs of 2E children should be determined to provide equal opportunity in education (Assouline et al., 2010; Foley Nicpon et al., 2011; Parker and Johnsen, 2012; Roberts, 2015). In order to create an efficient programme that caters to these children and legislation that involves monitoring, guiding and assessing them, studies of diagnosing should be increased (Assouline and Foley Nicpon, 2007; Foley Nicpon et al., 2011), teaching techniques and methods should be developed (Crim et al., 2008) and teacher awareness should be raised (Assouline et al., 2010). In this regard, twice-exceptional students can be considered as a sub-group within both gifted and disabled students, while twice-exceptionality can be recognised as a specific group in special education (Kurup and Dixit, 2016).

The main reason why educators fail to recognise 2E students and respond to their needs is the impact of outdated concepts and misinformation about G&T learners. In other words, stereotypes related to both disabled and able individuals can be seen as a major problem in identifying them (Lewis, 2015; Reis et al., 2014). Accordingly, high potential learners with dual or multiple exceptionalities representing a specific group in special education might have more different needs than those of gifted and talented ones (Reis et al., 2014).

In the light of such issues, determining clear identification criteria and developing concepts and knowledge related to twice-exceptionality or multiple-exceptionality depend on further studies in this area (Foley Nicpon et al., 2015). To better inform educators will be integral to improving provision for these students and increasing interest in the subject. It is hoped that this study will also highlight the necessity of improved provision and address the gap around identification and theorisation of 2E with post-structuralist concepts in the current literature.

1.3. Purpose of the Study

This exploratory research was primarily intended to investigate the experiences of twice-exceptional (2E) students (those with both gifts or high potential and challenges or additional needs) through a qualitative methodology. The aim of the research was to reveal and explore the experiences of, and challenges faced by, high potential and 2E students using semi-structured interviews conducted with both students and teachers who have or have had 2E students as a data collection tool. Although parents were not included in the research, this study aimed to investigate family communication and social relationships, exploring such relationships through the questions asked to the students.

Results acquired through qualitative data analysis describe the situations of the students participating in this research. Data collection through in-depth interviews aimed to generate comprehensive responses to questions that serve the purpose of the research in order to obtain qualitatively broad data and prepare an environment for interpreting them from different perspectives (Patton, 1990). One of the aims of this study was to prepare a guideline report that would be useful to educators, including a list of requirements and possible solution proposals, based on the results to be obtained from the research. It is also aimed to provide answers in accordance with the research aims to questions such as what kind of programme 2E students need, what teachers and parents can do in cooperation, how teachers should guide them, and what kind of environment should be offered to these students for them to better demonstrate the skills they have. These objectives, in addition to the primary purpose, constitute additional contributions of the study.

The study also explores what the concept of difference in society means for 2E individuals and understand the challenges they face in the context of inclusivity and diversity. Additionally, considering the paradoxical nature of 2E that encompasses both exceptional abilities and disabilities, the research intends to examine the historical and theoretical foundations of these exceptionality components. In this context, qualitative data collection methods employed in the research are expected to provide a way to integrate the theoretical underpinnings of the research with real-life experiences, aiming to explore the ways in which 2E students overcome the challenges they face in their academic and social lives. The qualitative data aims to provide an in-depth understanding of 2E students' experiences,

feelings, thoughts, and difficulties, enabling the connection of these experiences with the theoretical framework.

The study objectives were as follows:

- To discover what kind of experiences 2E students have and whether and how their being 2E affects their daily life or social relations (e.g., being labelled, being bullied at school, having depression and anxiety, etc.), while also uncovering the strengths and strategies they utilise to navigate and effectively overcome any challenges.
- To reveal what teachers and parents of twice-exceptional (2E) students provide for the students in order for them to adapt, and whether and how intervention efforts responding to their needs are effective and imply mutual or contextual adaptation.
- To investigate to what extent being a 2E student affects academic achievement, for example, lack of motivation, poor organising skills, or lower performance despite their abilities, and how these students overcome any issues (e.g., by receiving additional support from guidance services provided by the school).
- To assess the impact of being a 2E student on academic achievement, exploring how their unique abilities, motivation, organisational skills, and performance relative to their abilities contribute to their overall success and growth.
- To indicate whether the challenges experienced by 2E students in various areas of life can hinder their high potential ability and academic success.
- To explore what the concept of difference in society means for 2E individuals and the challenges faced in the context of diversity and inclusion.
- To examine the historical and theoretical underpinnings of 2E's structure, which encompasses exceptional abilities and disabilities, in order to gain in-depth insights into the experiences of teachers and 2E students.

1.4. Rationale and Importance of the Study

Although the concept of disability is examined widely in non-gifted students, fewer studies on high potential students with various disabilities have been found following a search of relevant databases and a literature review (Hannah and Shore, 1995; Silverman, 1989). This may be due to difficulties in recognising high potential and 2E students who have learning disabilities

or other disabilities (such as ADHD, autism, or anxiety) by education specialists (Yates and Boddison, 2020). It is, therefore, frequently seen that giftedness is an effective factor in the neglect of the learning difficulties of gifted students, while the disabilities of highly able learners might hide their exceptional capabilities. Accordingly, intelligence and disability are issues that need to be discussed separately in order to achieve better recognition of each (Baldwin et. al., 2015, p.212).

Given the above, the proposed research aimed to examine the experiences of 2E students and how their needs are currently met by education professionals, teachers, and parents, and to explore how they overcome the difficulties that they confront in their social and academic life, such as a lack of motivation or fear of social rejection related to their additional needs. This research also recognises that in addition to their simultaneous disabilities and talents, 2E students may have additional support needs such as poor social skills, or anxiety. Accordingly, the study was designed to contribute to better identification of twice exceptionalities and reveal the experiences that 2E students may have in their social and academic lives.

It was anticipated that the study would also establish whether and how the concept of twice exceptionality is a challenge in the students' relations with their environment. From this perspective, studies on the academic failures of twice exceptional and able students appear to be more evident in the literature. Consequently, it is the increase in the number of studies concerning the experiences and challenges of such students that made this research necessary (e.g., Renzulli and Gelbar, 2020). This research holds significance in that it aims to place 2E within the context of UK inclusion policies and history, considering the differences in the education systems of England, Scotland, Wales, Northern Ireland and building on sociological, philosophical, and socio-cultural foundations. However, since the study is specific to England in terms of data, the findings related to the academic experiences of participants and recommendations for policy, curriculum and practice-based solutions should be evaluated within the context of England due to the diverse education systems in the UK. The research emphasises the importance of using theoretical frameworks to comprehend the experiences of teachers and 2E students and the societal perceptions and approaches towards them. This theoretical framework, described in Chapter 2, provides a historical perspective by considering the paradoxical term 2E separately on the two contrasting bases of ability and disability, and a philosophical approach to elucidate how this duality contributes

to diversity in society without the need for a standardised norm.

1.5. Research Questions

In line with the purpose of this project, the following research questions can be outlined:

Primary Question:

What are the academic and social experiences of 2E students in schools in England and how do these experiences influence their learning process and social interaction?

Sub-questions:

RQ 1: How does a twice exceptional (2E) student who is both highly able and challenged relate to their peers in the classroom and social settings?

RQ 2: What kind of challenges do these learners face in a school environment?

RQ 3: What are the situations influencing the academic success of twice exceptional students?

RQ 4: What is the relation of a 2E student to his/her family members?

RQ 5: What kind of challenges do 2E students confront in daily life?

RQ 6: What are the strengths and weaknesses that 2E students think they have?

RQ 7: What are the intervention efforts for 2E students and how do 2E students think teachers and parents support them?

RQ 8: What are the difficulties of educating 2E students as experienced by teachers and other education professionals?

RQ 9: What, if any, are the emotional and behavioural issues that 2E students have?

1.6. Assumptions, Scope, and Limitations of the Study

1.6.1 Assumptions

In this study, it is hypothesised that a theoretical framework derived from sociological, philosophical, and socio-cultural perspectives can provide a significant foundation to

comprehend the place of 2E individuals within society and explore their potential, facilitating a better understanding of the experiences of 2E individuals. This helps in understanding how societal norms, expectations, and systems influence their real experiences and identities. By drawing on philosophical theories, the researcher can explore the underlying assumptions, biases, and limitations in existing conceptualisations of giftedness and disability. This examination can challenge conventional notions and provide a more nuanced understanding of 2E individuals.

The researcher begins with a theoretical framework derived deductively from the analysis of existing sociological and philosophical theories. Subsequently, by drawing upon inductive methods, such as real-world experiences, research data, or field studies, the researcher can test or develop specific hypotheses within this theoretical framework. In this way, the inductive and deductive approaches can complement each other, providing a more comprehensive understanding and enabling the testing of hypotheses based on the theoretical framework, as well (Bradley, Curry and Devers, 2007). By integrating sociological and philosophical perspectives, the researcher can move beyond a narrow focus on individual characteristics and explore the broader societal context in which 2E individuals navigate. This holistic view helps in recognising the interconnections between personal experiences from the collected data, and social structures and cultural norms as mentioned in the theoretical framework, leading to a more comprehensive understanding of the complexities surrounding 2E individuals. This suggests that examining the concept of 2E employing such perspectives is crucial for understanding individuals' interactions with their environment and their relationships with social norms (Collins and Stockton, 2018).

The selected participants, deemed appropriate for the target population, are believed to accurately reflect their experiences and views related to the subject under investigation. The researcher trusts the accuracy of the information provided by the participants and assumes that it forms a reliable basis for the process of analysis and interpretation (Simon, 2011). Furthermore, it is presumed that appropriate techniques have been chosen to ensure the validity and reliability of both the research and the study's findings (Cohen, Manion and Morrison, 2017). The data collection and analysis methods are acknowledged to have been utilised appropriately to address the research questions and objectives accurately.

It is considered that the data collection methods have been diversified and sufficiently adapted to the participants' circumstances and conditions such as the COVID-19 pandemic and prolonged associated lockdowns, ensuring flexibility in obtaining an adequate amount of data. Given the conditions above, it is hypothesised to maximise the efficiency of these different data collection tools. For instance, although interviews are conducted in a single session, they are believed to be suitable for intense interactions and obtaining information in detail (Morris, 2015). The combination of these methods of data collection allows for a comprehensive understanding of participants' experiences from different perspectives and facilitates comparisons across data collection instruments. These assumptions formed the basis of the study and play a significant role in ensuring its reliability and validity (Noble and Smith, 2015).

1.6.2. Scope

This study aimed to understand the experiences of individuals who are 2E, acknowledging them as individuals with exceptional dual or multiple abilities, and explore the position of these individuals in social and academic life. It seeks to fill a gap in the existing literature by examining the 2E phenomenon from a historical, philosophical, sociological, and socio-cultural perspective. The study focuses on a diverse group of participants, including individuals from various age groups and with different socio-demographic backgrounds who identify as 2E, as well as teachers who have experience of working with 2E students. It is, again, emphasised that the data scope of this study is limited to England and that the academic experiences resulting from the data are evaluated in the English education system context.

Moreover, this study is considered to be an important resource for establishing an understanding of the concept of 2E. The arguments presented in the study are recognised as valuable contributions for educators and other relevant stakeholders, aiming to support and fully explore the potential of 2E individuals.

1.6.3. Limitations of the Study

This study has certain limitations that need to be acknowledged. Firstly, both UK-wide and international research in the field of 2E is limited, which implies a scarcity of existing literature and limited progress in this area. Therefore, conducting additional research is recommended

to achieve more comprehensive knowledge. Furthermore, the dominance of the American-based literature makes it challenging to conduct comprehensive international comparisons due to the uneven distribution of studies and the diversity of topics addressed. Additionally, it would be desirable to have a greater number of studies in other countries, particularly the United Kingdom, to ensure a more balanced representation and reflect the diversity of 2E research in different nations.

Secondly, in the post COVID-19 pandemic period, significant challenges have been faced in the data collection process. The challenge of communication and access in the digital environment made it difficult to connect with schools and participants. Moreover, it is perceived that interviewing some participants through digital tools does not offer the depth and impact provided by face-to-face interactions. As participants could not be interviewed in person, there may be a risk of important information being missing in the data collection process.

In the post COVID-19 pandemic era, according to their own statements in e-mails, school administrators encountered additional responsibilities such as ensuring the safety of schools, students and staff and managing adaptation processes, which has increased the workload. Therefore, this intense workload has led school administrators to become reluctant to support additional projects such as thesis work. Furthermore, emphasising the protection of the privacy rights of students and teachers, school administrators have had to be more careful in ensuring the confidentiality of students and other staff. This has resulted in limited access to the data required for the thesis and difficulties in reaching students. Therefore, it is essential to consider the negative effects of both the challenges brought by the pandemic and the post-COVID-19 period on research endeavours.

The limited participant criteria may also have posed challenges in reaching participants during the study. Initially restricted to high school students, the sampling had to be expanded to include university students, which may have implications for the representativeness of the sample and comparison of the findings. Moreover, conducting only one interview per participant could be construed as a further limitation, as it affords only one opportunity to secure sufficient data to enable an in-depth understanding of participants without the possibility of acquiring more comprehensive data. However, due to the difficulties in reaching participants under pandemic and post-pandemic conditions, and the effort required to access

different participant types, it was not deemed practical or necessary to increase the number of interviews.

The initial aim of the study was to collect data from all countries in the United Kingdom, however, due to the difficulty in reaching participants in the other regions, data were only obtained from cities in England (Plymouth and London). While the study addresses policies and practices comparatively in Wales, Scotland, and Northern Ireland as well as England, the academic experiences of the participants reflect the policies and practices implemented in England only.

Thirdly, although data collection methods were diversified to include approaches such as e-mail and Google Forms, having a higher number of face-to-face interviews would have been more beneficial. This limitation restricted the opportunity for more profound interaction with participants; nevertheless, the utilisation of various communication channels ensured flexibility in the data collection process and facilitated remote communication with participants.

Fourthly, the study collected data from a total of 5 student participants representing different school types: 2 participants at the master's degree level, 1 participant at the undergraduate level, and 2 participants at the high school level. Although there was diversity among the school types, the limited sample size prevented a comprehensive comparison within these different school types. Consequently, the findings of each student participating in the research reflect the subjectivity, and the generalisability of these findings based on the available data could be limited. Gathering a larger number of participants would enable a more extensive comparison within school types.

Fifthly, the study did not include the parents of 2E students. By including parents and gaining insights into their perspectives, a more comprehensive understanding of 2E might have been achieved. Exploring the experiences and viewpoints of parents could have provided first-hand information about their experiences and shed light on the topic from a unique standpoint. This would have added depth to the study and enriched the overall findings. Indeed, the focus on collecting data from students and teachers in the initial stages of the study led to the postponement of involving parents as participants. The exclusion of parents from the study can be attributed to the challenges faced during the research process and the limitations

imposed by time constraints. The decision to prioritise data collection from students and teachers was driven by factors such as limited resources, logistical constraints, and the primary research objectives. However, it is important to acknowledge that the absence of parental perspectives represents a limitation in fully understanding the 2E phenomenon. Therefore, future research in the field of 2E should consider incorporating parents as participants to gather their valuable insights and experiences, as they play a significant role in the lives of 2E individuals; this would provide a more comprehensive and holistic understanding of the subject.

Lastly, while there is significant diversity among the demographic characteristics of student participants in terms of age, gender, and educational levels, the gender distribution is imbalanced, with a larger number of female students. This limitation restricted a comprehensive evaluation of gender-based differences.

Given these limitations, it is crucial to interpret the findings of this study with caution and exercise prudence when making generalisations. Future research should strive to overcome these limitations by employing more comprehensive samples, diversifying communication methods, and ensuring a more balanced distribution of literature on an international scale. These steps are essential for obtaining more extensive and comparable findings in the field of 2E.

1.7. Conceptual Framework

This study identifies several terms, concepts and sub-concepts based on data analysis and literature, reflecting the need to explore and explain different concepts related to the key terms of 'twice exceptionality' (2E) and dual or multiple exceptionalities, and what learners described as 2E experience. The conceptual framework outlined in this section is, thus, suggestive of how this research has potential value in special education in relational and structural contexts. Special education here refers to an education based on individual needs and circumstances, including educational programmes designed with target achievements, environmental organisation, guidance and counselling support and maximising each child's access to educational opportunities (Hallahan and Kauffman, 2000).

The understanding of special education, which aims to create an inclusive and supportive educational environment that maximises the learning potential and overall well-being of students with special needs, including 2E students, can be effectively explained by the term mutual adaptation, originally coined by Berman and McLaughlin in 1976 (Haris and Ghazali, 2018). The mutual adaptation that could be used as a teaching model suggests that the teacher should modify the educational environment and activities according to individual needs and provide students with spaces where they can showcase their abilities to the fullest extent (Lotan and Navarrete, 1986; Reiser et al., 2000). It also allows learners to discover their abilities and needs, thereby increasing their motivation in learning environments. In this context, mutual adaptation creates a flexible and dynamic educational environment by focusing on customisation and responsiveness to local conditions in educational settings rather than rigid and standardised practices (Haris and Ghazali, 2018; Reiser et al., 2000). In line with the understanding of special education, by embracing mutual adaptation, educators can modify the educational settings and tools to meet the diverse and complex needs of 2E learners as well, allowing them to showcase their talents, discover and develop their strengths and increase their learning motivation.

By facilitating an understanding of the term 2E and the relationship between concepts, the conceptual framework provides a holistic rationale and structure to the study and is intended to increase the visibility of the research (Jabareen, 2009; Maxwell, 2012). Consideration of extant concepts, for example, paradoxical difference, awareness, social network, masking, multiple exceptionality, uniqueness, and the development of novel concepts (contextual exceptionality, political sensitivity, mutual adaptation), as shown in Figure 1.7.1, provides an infrastructure for the reported study. These concepts could also be considered as sub-concepts of 2E and convey the general structure of the thesis. The figure shown below represents key existing concepts and those generated by this research.

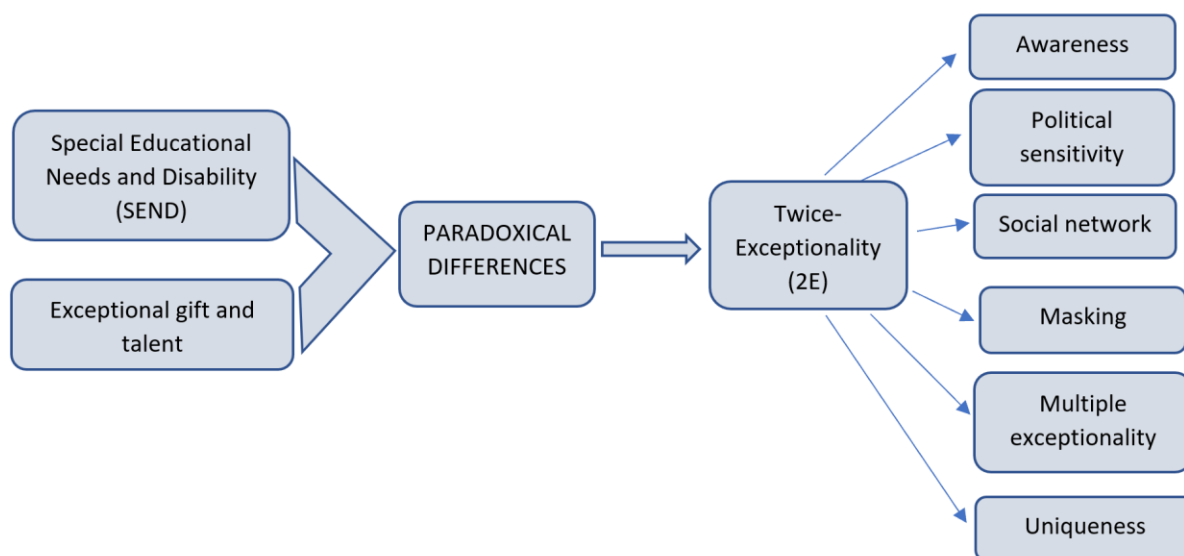


Figure 1.7.1: Concept Development

Twice-exceptionality is a combination of differences that have been described as ‘*paradoxical*’ to indicate the presence of high potential under disadvantaged conditions (Baum and Owen, 2004). Twice-exceptional individuals are, therefore, unique in that they possess both exceptional intellectual abilities and specific learning challenges, making them distinct from both gifted and talented individuals and those with disabilities, as they exhibit a combination of contrasting exceptionalities. Students with 2E, therefore, represent a distinctive and special group, suggesting their ‘*uniqueness*’ within the groups of gifted students and students with disabilities based on the principle that ‘*every child is unique*’ (DfE, 2014; Younis, 2020). This ‘*uniqueness*’ creates unique needs and additional support requirements that differ from current understandings of individualised educational practices. 2E individuals, who form a minority group within special education groups, challenge all stereotypes of gifted and disabled students as their strengths or weaknesses can take priority, with one obscuring the other (Baldwin, Omdal and Pereles, 2015). From this point of view, the needs of 2E children cannot be assumed to align solely with either gifted learners or learners with a specific disability. Thus, accurate identification and awareness enhance perspectives on addressing their unique needs and foster a more comprehensive approach. In order to avoid such stereotyping, the inclusivity of 2E learners should be re-considered and evaluated by considering their individual needs (Foley-Nicpon, 2013; Pereira, Knotts and Roberts, 2015). Prioritising the unique needs implies the emergence of the idea that a more

inclusive and supportive environment can be created for 2E students. The concept of 'masking' is highlighted by twice exceptionality and constitutes one of the most important characteristic features of 2E students; due to this masking effect, either abilities or disabilities risk overshadowing each other, which also makes it difficult to detect 2E students (Baum, Schader and Owen, 2017).

Disadvantageous conditions that prevent high potential learners from realising or displaying their talents at the desired level may go unnoticed by unaware and/or judgmental peers and teachers. Trapped in this dilemma, 2E students can isolate themselves socially in order to avoid being bullied and, consequently, have difficulty in developing a 'social network' (Ronsley-Pavia, Grootenboer and Pendergast, 2019). Twice-exceptional students who grow up and are educated in environments where they cannot express themselves socially may lack a sense of belonging in schools and the self-confidence required to participate in social networks and environments (Younis, 2020). Given such knowledge, this research also sought to investigate the social relations of 2E learners with family members, peers, and teachers by including interview questions referring to social networks.

Before developing policies on educational programmes and inclusivity regarding 2E learners, it is important for the 2E to gain 'awareness' in a socio-cultural sense. Increasing awareness implies overcoming stereotypes and misconceptions, thereby recognising 2E and identifying students with 2E accurately (Younis, 2020). The development of identification tools in this field or the implementation of practices and action plans in educational settings calls for the presence of policies. The level of awareness among educational stakeholders and the wider society about 2E and other groups in special education also contributes to the development and functionality of policies and educational practices (Norwich, 2009).

The inclusion of able learners with 2E is only possible with effective education policies (Besnoy et al., 2015; Pereira, Knotts and Roberts, 2015). These policies should be based on individualised programmes rather than a standardised concept of giftedness; standardisation risks misdiagnosis of 2E and stereotyping by peers and teachers (Roiha and Polso, 2020). In order for every school to develop policies and practices targeting 2E students, this group should be evaluated separately from gifted students or students with specific learning difficulties (Younis, 2020). However, this should not become a rationale for segregation or the marginalisation of individuals with special educational needs but, rather, should accelerate

the individualisation and customisation of provision in education so that the inclusion of highly able learners with exceptionalities can be effective (Norwich, 2009). All groups in special education should be approached sensitively in line with the principle of individuality, and this sensitivity should be reflected in policies and practices. From this point of view, the presence of 'political sensitivity' in special education is important for the development of legislation and the provision of equal opportunities in education (Roberts, Pereira and Knotts, 2015).

Special education policies should exist not only to meet the academic needs of students but also to support these students socially and emotionally so that the integration and adaptation of students can be achieved (Baum and Schader, 2018). Education cannot be thought of as inclusive if reinforcement of the academic potential of students with 2E is exclusively emphasised, and the social and emotional needs of these students are neglected (Missett et al., 2016). In order to drive meaningful progress, it is imperative to deepen the understanding of 2E students and conduct further research within this field, as enhanced knowledge and research are essential for bringing about positive changes in support and education for these students.

1.8. Thesis Overview

The subsequent chapters unfold as follows. The theoretical framework initiates the exploration, tracing the historical trajectory of giftedness, investigating its intersection with SEND and comprehending diversity and inclusion through the philosophers of difference. Following this, the literature review reveals the multifaceted realm of 2E individuals, elucidating definitions, characteristics, prevalence, awareness issues and challenges associated with inclusion. The methodology chapter outlines the method, sampling, participants, data collection process and tools of the chosen research approach. The subsequent chapter presents an analysis of the empirical findings and engages in nuanced discussion. The thesis concludes with remarks that synthesise key insights and propose implications for educational practice, highlighting the crucial importance of fostering diversity and inclusivity for both gifted and 2E learners.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1. HISTORICAL APPROACH

Special Educational Needs and Disability (SEND) is used to describe some conditions such as autism, learning disability and speech and language disorders, and can form part of frameworks that enact the idea of educating individuals with special needs, including learners with twice-exceptionality (2E). Educational programmes designed for students with SEND are implemented to meet these needs. The importance of 2E within SEND and how this phenomenon appears in the context of SEND will be explained through a consideration of how SEND has, historically, become a branch of educational science and how 2E has become a topical issue in popular culture globally (Tomlinson, 2011). The relationship between education policies and practices in schools that have developed to meet the needs of individuals with SEND will also be examined, along with giftedness, which is a component of 2E and has had significance in special education. Both are discussed from a historical perspective and related to varied theories and approaches. In this respect, it will be easier to understand why the classification of 'special needs' was introduced in the context of historical processes. In addition, the origin and history of twice-exceptionality that, by comparison, features far less frequently in the literature as a concept, will be examined.

Giftedness is not always demonstrated and identified in an expected and standardised manner but can reveal itself in a complex and diverse way (Mönks and Katzko, 2005). This multifaceted and complex nature of giftedness is the point reached in the historical journey through new conceptions and models. Therefore, the historical study of giftedness is also necessary to provide insights into the origins of 2E and the nuanced relationship with 2E individuals who are gifted but who, due to their special circumstances, may exhibit their abilities in complex ways.

The United Kingdom is a union of countries: England, Scotland, Wales and Northern Ireland, each with its own distinctive education system (West, 2023). England is administered by the government of the UK centred in Westminster, while the other three countries have autonomous executive and legislative authorities as a result of political devolution which began in 1998 (Leeke, Sear and Gay, 2003). Therefore, the differences in education systems

between these countries arise from the legislative authority of the Scottish Parliament, the Welsh Parliament, and the Northern Ireland Assembly (West, 2023). In this regard, the historical background, educational acts, and policies in this section will be discussed comparatively, considering all the nations in the UK.

2.1.1. History of SEND

Special Educational Needs and Disabilities (SEND) is a term used to describe a range of learning difficulties and disabilities that require special educational provision for children and young people from birth to the age of 25, and this provision is tailored to meet their individual needs and may involve additional or different support from that which is typically provided to others of their age (DfE, 2015, p.15-16). The provision highlights the importance of equal opportunities in education and acknowledges the uniqueness of every child, thereby recognising the diverse needs of each child (DfE, 2015).

Understanding the current issues in the education of exceptional learners requires knowledge of the development of relevant theories and consequent legislations in a chronological context. The study of social events, along with the history of education, is also essential in terms of seeing how special education is shaped by social dynamics and inseparably interrelated with the social environment (Kauffman et al., 2017). In order to estimate the prevalence of learners requiring additional support, and to remove ambiguity to the greatest extent possible, it is firstly necessary to determine the definition and scope of SEND. Both have undergone major changes following the enhancement of the rights of individuals requiring additional support; research findings have been disseminated and, consequently, legislation and policies in education have been introduced and revised (Esposito and Carrol, 2019). From this perspective, examining the history of SEND within the framework of the laws enacted in the domestic and international context can clearly demonstrate how its definition and scope have changed, and the influence of developments and innovations in the understanding of education (Kauffman et al., 2017).

According to the Education Act of 1944 applied in England and Wales (West, 2023), children and young individuals with 'physical and intellectual disabilities' were identified and categorised in medical terms as having a variety of disabilities. The pupils assessed in this categorisation were regarded as 'uneducable' or 'maladjusted' and were given 'special

education treatment` in separate special schools, not being considered suitable for the mainstream education system at the time (Lindsay et al., 2020). On the grounds that it was less pejorative, the term `mental disability` - a stigmatising term used historically, was replaced by 'educational sub-normality' (Lindsay et al., 2020; Borsay, 2012). Though the Act has been a milestone in the history of education in England and Wales, segregation in this format could be criticised as it did not create a setting that was satisfactory for children with SEN and their families (Lindsay et al., 2020). In addition, this implementation deprived non-disabled individuals of acquiring interpersonal social skills such as empathy, tolerance and acceptance (Borsay, 2012). Considering local adaptations, similar legislation retaining the key aspects of the 1944 Education Act was passed in Scotland in 1945, followed by another in Northern Ireland in 1947 (West, 2023).

The term `Special Educational Needs (SEN)` was first coined in the Warnock Report in 1978 (Norwich, 2019), which affected future developments in special education in the UK (Ellis et al., 2008; Norwich, 2019) and intended to address more specific needs and areas for the additional support of pupils (Lindsay et al., 2020). Different from the 1944 Education Act, the scope of SEND was expanded to include not only the disabilities expressed in medical terms but also different conditions (e.g., learning difficulty) (MacBeath et al., 2006). Moreover, an integrative educational approach was adopted, and foundations were laid for the current inclusive education system, by setting common goals for all children regardless of any disability, such as capacity for autonomy, and providing different supports for them (House of Commons Education and Skills Committee, 2006). With The Education (Additional Support for Learning) (Scotland) Act 2004, the term additional support needs began to be used rather than SEN in Scotland (Harris, 2018). While this term shares similarities with SEN, it becomes more comprehensive by encompassing children who require support beyond disabilities (e.g. bullying or foster care) (Harris, 2018; Riddell et al., 2010). By accommodating complex needs, this legislation establishes a broader inclusion framework and emphasises that disability should not be the sole focus in inclusive education (Riddell et al., 2010).

The term `disability` was not discussed until the introduction of the Disability Discrimination Act (DDA) in 1995, and it was initially perceived as distinct from SEN (Porter et al., 2008; Porter et al., 2011). The legislative process took place over time from the DDA 1995 to the Equality Act 2010, reflecting in both social and educational policies (Fell and Dyban, 2017). While the

Disability Discrimination Act 1995 was implemented across the UK, it was replaced by the Equality Act in 2010, which applies in England, Wales and Scotland (Lewis, 2020). However, Northern Ireland has its own legislation addressing disability discrimination, namely the DDA 1995, which has not been superseded by the Equality Act 2010 (Potter, 2011).

When the concept of educational inclusion is examined in the international literature, provisions for the education of individuals with special needs in mainstream schools, rather than their segregation in separate schools, are found in the government policy of many countries (Farrel, 2010; Thomas and Smith, 2009). The Salamanca Declaration, organised in 1994 under the leadership of the United Nations Educational, Scientific and Cultural Organisation (UNESCO), and with the support of the Spanish Government, created international awareness of the expansion and development of inclusive education, and also promoted equal opportunities for, and worldwide acceptance of, all children regardless of their disability (Barton, 2009; Garner, 2009). The concept of inclusive education, which came to be globally accepted during the 20th century, is also found in English education policies. In the Education Act of 1981 for England and Wales and the Green Paper of 1997 (DfE, 2011; Shaw, 2017) which were inspired by the Warnock Report in 1978 (Norwich, 2019), and in which the idea of inclusion of all pupils was developed and expanded, inclusive education was proposed as an ideal educational model for children with special educational needs. However, the idea of educating all students in mainstream schools regardless of their disabilities has been criticised over the years as it is considered that it is more appropriate for students with severe learning disabilities to receive education in accordance with their own special needs (Croll and Moses, 2000; Warnock, 2005; Warnock and Norwich, 2010). In addition, with the increase of concerns around workload and the associated responsibilities in mainstream schools, the proposition of reintroducing special schools has been raised (Shaw, 2017; Warnock, 2005). Based on these critiques and debates, both inclusion and special schools have been supported and improvement efforts have been made in SEND, as indicated in the Green Paper of 1997 (DfE, 2011) and in Warnock's retraction of her earlier position in 2005 (Croll and Moses, 2000; Shaw, 2017; Warnock, 2005).

The above-mentioned reports, briefly, contain key provisions for children with special needs which are about the scope of special conditions that require additional support and adopting an education model for meeting their needs. Considerations of whether and how to integrate

special pupils into the mainstream education system, and which students with special educational needs will receive education in mainstream schools or in segregated special schools, have always been the subject of policies and legislation. In this respect, the Education Reform Act of 1988 in which the national curriculum was introduced in England, Wales and Northern Ireland for students with SEND to follow, as well as those in mainstream schools, was also one of the most significant developments in special education (Clough, 1998; Ellis et al., 2008; Woolley, 2019). The idea of a common curriculum created an extra burden and responsibility for students who cannot meet national standards, making individual differences more obvious and causing these students to be labelled (Chitty, 2008). Based on this, a risk of overlooking special needs in order to meet the national criteria and concerns about fitting the individual achievements of students to the national curriculum could occur (Chitty, 2008; Clough, 1998; Nutbrown and Clough, 2006). Strain and Simkins (2008) claim that the national curriculum contradicts a student-centred understanding of education as outlined in the Salamanca Statement (UNESCO, 1994). However, as a positive evaluation of the national curriculum, Wyse and Torrance (2006) define the curriculum as desirable outcomes at the level of national standards. These views may suggest that there are many aspects of the national curriculum that are susceptible to criticism and evaluation. In Scotland, the curriculum was not formulated by a specific law but follows a more adaptable model where local education authorities and schools take the initiative. Despite this decentralised approach, a notable consistency in the curriculum across Scotland was observed (Ellis et al., 2008).

As well as the existence of special schools, the establishment of an organisation that would oversee their functioning would be significant for further studies in the field of SEND (Gillard, 2011). The Office for Standards in Education (Ofsted) was established in 1992 to inspect both mainstream schools and special schools in England, and the first inspection was carried out in 1993 (Elliott, 2012). After the introduction of the national curriculum, it was Ofsted's primary role to inspect schools' adherence to established standards (Brown et al., 2002; Gillard, 2011). In the Education Act of 1992 in England and Wales, it is stipulated that the way to improve schools is through inspection, and it is claimed that it is the responsibility of Ofsted to share the inspection results openly with the public (Chapman, 2002). This is seen as an important step in terms of supervising the functionality of special schools, making developmental

assessments of students, and monitoring how well the intended goals have been achieved (Elliott, 2012). Therefore, by evaluating Ofsted beyond a management and control mechanism, it is necessary to see it as an opportunity for schools to improve themselves and to be able to recognise the deficiencies and strengths in their settings (Gillard, 2011). However, the allegation that Ofsted has made prejudiced and unfair assessments has caused Ofsted's reliability to be questioned (Bassey, 2022; Gray, 2004). One of the criticisms directed towards Ofsted is that, instead of focusing primarily on the needs of students, teachers prioritise meeting Ofsted standards and obtaining a good rating (Coffield, 2017). Others argue that Ofsted, although in a controversial position, has played an important role in the assessment of schools in England since its establishment (Elliott, 2012). Since each country of the UK has own education system, their inspection bodies also differ from each other. Accordingly, while Ofsted is responsible to inspect schools in England, Estyn in Wales, Education Scotland (ES) in Scotland and the Education Training Inspectorate (ETI) in Northern Ireland are the inspection organisations tasked with assessing schools to improve the quality of education and training (Munoz-Chereau and Ehren, 2021). Estyn, ES and ETI similarly place greater emphasis on the equality of learners and pay attention to the coherence and consistency between educational institutions' self-assessment and inspection processes, while Ofsted helps schools to focus on their improvement goals through feedback at the end of inspections (Munoz-Chereau and Ehren, 2021).

Although inclusion is often associated with special education, it addresses the individual needs and conditions of all children, not only those with special educational needs and aims to create an educational environment where all children feel valued and supported regardless of background, ability, or any other characteristic (Booth, 1999). It is essential to understand that inclusion is not confined to providing additional support to children with special educational needs but also about removing barriers to learning for all children from different backgrounds and aiming to provide equal opportunities in an equitable education system (Booth and Ainscow, 2002). While there is no consensus on the definition of inclusion, it is evident that its scope is too broad to fit a single definition (Ellis et al., 2008). The report "Evaluating Educational Inclusion" (Ofsted, 2000) acknowledges that the scope of educational inclusion encompasses not only students with special educational needs and gifted children but also students learning English as an additional language, those who come from diverse

ethnic and religious backgrounds, refugees, children from families under stress, students who have been or are at risk of being excluded for any reason, and teenage mothers. The lack of explicit mention of exclusion in this context suggests that Ofsted (2000) has taken a broad approach to the scope of inclusion, and the examples of its scope could be expanded accordingly. Therefore, it is apparent that the scope of inclusion extends beyond students with disabilities and that barriers to learning are not limited to disabilities or special education, considering the circumstances of all students (Ellis et al., 2008).

Following the Education Act of 1993 in England and Wales, a 'SEND Code of Practice' assessing schools and identifying their needs was published and to be implemented the following year (Lindsay et al., 2020). Northern Ireland currently follows the version of the Code of Practice introduced in England and Wales in 1994 (Ellis et al., 2008). This code was later revised in 2001 (Department of Education and Skills, 2001) and in 2015 (Department for Education and Department of Health, 2015), as part of an effort to update and adjust it to meet the evolving needs and demands of schools (Armstrong, 2005; Lindsay et al., 2020). With the SEND Code of Practice (DfE, 1994) for England and Wales, schools were provided with the opportunity to obtain the best resources for children with special educational needs and practical guidance was given on how to manage the process and benefit from the resources. Furthermore, to prepare individualised education plans (IEPs) for each child with special educational needs, and to provide education to those children in line with these plans, Special Educational Needs Coordinators (SENCOs) were appointed in English schools. SENCOs at this stage have a key role in supporting pupils with SEND and developing strategic plans for the SEND policies and provisions of schools (Armstrong, 2005; Farrel, 2010). With the statutory guidance of the SEND Codes of Practice in 2001 and 2015, the rights of parents and children were expanded, and the views of children and parents are to be taken as the basis of decisions about children with SEN (Department for Education and Skills, 2001; House of Commons Education Committee, 2019; Lindsay et al., 2020). Regarding the other nations of the UK, the specialists with equivalent roles to SENCOs in England are referred to differently; in Northern Ireland, Learning Support Co-ordinators are responsible for the management of children with special educational needs, while in Wales, Additional Learning Needs Co-ordinators (ALNCOs) deal with the education of high potential children (Yates and Boddison, 2020). In addition, local

authorities in Scotland support the education process of children and young people with additional support needs by providing guidance to them (Harris, 2018).

Legal arrangements have so far been made under the banner of education reforms that include students receiving special education; however, the 'Special Education Needs and Disability Act' of 2001 in England, Wales and Scotland (Ellis et al., 2008)- the law bearing the name of special education, pointed out that it is a major issue that should be addressed (Armstrong, 2005). Within the scope of this act, the right of children with special needs to receive education in mainstream schools was expanded, and the decision to send pupils with SEN to special schools depended on the preferences of their parents. In the following years, some policies in England such as 'Every Child Matters' (DfES, 2003) and 'Removing Barriers to Achievement: The Government's Strategy for SEN' (DfES, 2004) were implemented in order to remove obstacles in the education of children with special education needs and enable them to better integrate into society (DfES, 2004). The main themes in these policy documents are inclusion in education and the determination of the needs of pupils with SEND in mainstream schools.

The historical development of SEND policy and provisions point to the importance of inclusive education, however, discussions about the format of inclusion have persisted from the Education Act of 1944 to date. The rights of children with SEND, including those promoted by the Warnock Report in 1978 (Norwich, 2019), have been expanded and protected by law, and their level of social integration has been increased (Brown, 2013; Lindsay et al., 2020). As reported in the Salamanca Statement (UNESCO, 1994), which special education policies in the UK and elsewhere have been influenced by, inclusion is regarded as an international issue and requires updated research if children with SEND are to have a better future (Croll and Moses, 2000). When the history of SEND is evaluated, it is evident that the provisions for children with SEND are promising, and it can be predicted that positive developments will continue with future legislation (Lindsay et al., 2020).

2.1.2. History of 'Giftedness'

The existence of gifted and talented individuals is of great value to society, leading to efforts to foster their growth and facilitate their contributions to their communities (Renzulli and Reis, 2021). In order to maximise the utilisation of gifted and talented individuals and derive

maximum socio-economic benefit from them, it is necessary to identify individuals with exceptional abilities in various fields and enhance the quality of education provided to them (Boettger and Reid, 2015).

The term gifted also has a theological and mythological background, which implies that giftedness is bestowed by God, based on various religious texts that describe the creation and bestowment of intellectual gifts (Kerenyi, 1980; Sak, 2011). Giftedness, from this perspective, is a belief-related and dogmatic concept implying the existence of a divine power (Phillipson and McCann, 2007). In addition to the mythological conception and widespread belief of giftedness as a God-given ability, this belief-based understanding also contains a misconception that giftedness is entirely innate regardless of environmental factors, which is far removed from the current understanding of giftedness (Cross, 2005; Sternberg, 1996). Although giftedness first emerges as a concept based on belief and developed through social, cultural, and religious experiences, it has been later elaborated and evaluated within a scientific framework (Sak, 2011), while still acknowledging the influence of belief systems on its development and interpretation. The history of giftedness in a scientific context can be attributed to the advent of constructive approaches, descriptive frameworks, and theoretical models focused on intelligence, including periods when intelligence was regarded as the predominant construct for defining giftedness (Pfeifer and Scheier, 2001). As a reflection of these efforts, meanings attributed to 'talent' and 'intelligence' have undergone significant changes with regard to intellectual capacity and behaviour patterns in historical periods (Pfeifer and Scheier, 2001).

The history of the first scientific studies to explain the complex structure of intelligence and giftedness dates back to Galton (1869), a British biologist who studied inheritance processes based on individual differences in humans; Galton associated giftedness with heredity and published a text entitled 'Hereditary Genius' (Dai, 2020). Later, Binet (1905) noted the complexity of intelligence, identifying composite skills such as the capacity for abstract concepts, comprehension, judgment, and questioning (Brody, 2000). Spearman (1904) based intelligence on two factors, general intelligence 'g' which is an inclusive factor that plays a role in all mental processes, and the specific intellectual ability 's' which is separated from the general factor and requires a special talent (Drigas and Pappas, 2017). Following these theoretical approaches to intelligence or intellectual structure, their practical implications in

education settings have been developed to facilitate high potential learners' realisation of their potential (Esping and Plucker, 2015). The first attempt to measure intelligence, as in today's intelligence tests, was that of French psychologist Binet (1905) whose test was developed to distinguish children with learning difficulties from others in schools in France (Esping and Plucker, 2015). A German psychologist Stern (1912) then proposed the Intelligence Quotient (IQ), which is well known today, by comparing the individual's mental age score to their chronological age in order to provide comprehensibility of data obtained from the Binet-Simon test (Lamiell, 2003).

The Binet-Simon scale was later modified by Terman (1916) at Stanford University in the US and was standardised for 3-year-olds and 16-year-olds, and the scale was named as the 'Stanford-Binet Intelligence Scale'; this test was also used in the recruitment for and assignment of different positions in military services during First World War following attention from the US Government (Fancher and Rutherford, 2012; Kaplan and Saccuzzo, 2009). Based on the developed IQ tests, Terman (1925) stated that those who score at the upper limit of 1% in the Stanford-Binet IQ test are defined as "gifted and "talented" (Brown et al., 2005).

American psychologist Wechsler (1939) developed the Wechsler Adult Intelligence Scale (WAIS) in the belief that intelligence includes different mental abilities and, after conducting studies, by revealing the limitations of the Stanford-Binet test. The associated test was named the Wechsler-Bellevue Intelligence Test and Wechsler (1949, 1967) later published the intelligence test known as the 'Wechsler Intelligence Scale for Children' (WISC) and the 'Wechsler Preschool and Primary Intelligence Scale' (WPPSI) for use with children (Gordon, 2004). The adult version of the test has been revised since its original publication and is now known as WAIS-IV (Kaplan and Saccuzzo, 2009). The tests were created based on Wechsler's (1940) theoretical understanding of intelligence as an ability in a global sense that encompasses an individual's purposeful behaviour, rational thinking, and efforts to deal effectively with the environment (Ardila, Pineda and Rosselli, 2000).

2.1.3. Models and Theories of Giftedness

When the approaches and theories outlined above are assessed, it is evident that the history of giftedness has involved efforts to recognise the complexity of intelligence and to develop

standardised IQ tests to measure intelligence. Novel understandings of giftedness are proposed in every period, resulting in cumulative conceptions based on arguments that it is necessary to reveal hitherto undiscovered features of intelligence and different skills related to special talents rather than prioritising the measurement of IQ (Gardner, 2006; Sternberg, 1990; Sternberg, 1997). In this context, Gardner (1983) initially insisted that intelligence consists of a variety of abilities that cannot be explained by the concept of mental ability as a single factor, and introduced an approach entitled "multiple intelligence theory". This theory of intelligence, which is posited as comprising seven areas (verbal, mathematical, visual, internal, social, musical and kinaesthetic), rejects a concept of intelligence as a single and dominant ability and, instead, indicates that it consists of various special dimensions. Gardner (1999) expanded the theory of multiple intelligences and added naturalistic intelligence which was defined as an eighth type of intelligence in addition to the original seven (Visser et al., 2006). Gardner (1983) recognises that the criteria for intelligence are flexible and suggests that cultural factors may also be influential in these criteria. However, Gardner (1999) also argues that there is no hierarchy between the domains of intelligence, although it is the reality that in some societies linguistic and mathematical intelligence are more valued and prioritised (Visser et al., 2006). However, Waterhouse (2006) emphasised the limitations of the theory, claiming that there is insufficient empirical evidence of distinct and independent intelligences, and that the theory relies heavily on anecdotal observations and case studies. According to Waterhouse (2006), the evidence provided for the theory is subjective and lacks scientific rigour. Despite these criticisms, Gardner's (1983, 1999) rejection of a single, dominant intelligence can be considered consistent with the 2E paradigm, which acknowledges that intelligence is multifaceted and cannot be summarised by a single criterion, but rather involves a unique interplay of strengths and weaknesses. In this context, this theory, with its emphasis on different dimensions of intelligence, provides a valuable framework for understanding the complexities associated with 2E learners. It highlights the need for comprehensive approaches that recognise and nurture both the specific learning difficulties and exceptional abilities of these learners.

Gardner (1983) argues that rather than questioning how gifted people are, it should be established in which area they are gifted as people develop in different directions. From this perspective of historical context, a trend can be identified in how intelligence has been

configured, away from more conservative and traditional definitions towards flexible and multiple approaches. In another example, Sternberg (1997) classified the abilities of individuals into three areas: "Analytical intelligence", "Creative intelligence" and "Practical intelligence". However, Sternberg (1997) states that these three areas cannot be measured with classical intelligence tests which are incomplete.

According to Renzulli's (1986) definition of giftedness, which is widely accepted in the literature, giftedness is defined as being above average in measured intelligence, having special skills and talents, a capacity to approach problems from different vantage points to produce creative solutions, and being highly motivated in all tasks for which responsibility is taken. However, it is also emphasised that giftedness is not only about creativity or showing superior skills but also that behaviours and motivation are distinctive properties of gifted individuals (Freeman, 1985). Renzulli (2005), who introduced the theory of the 'Three-ring Conception of Giftedness', claimed that giftedness consists of three components: above-average ability, creativity, and task commitment. According to Renzulli (2005), these three components must come together and complement each other for an individual to be considered gifted. That is, individuals who are recognised to be gifted stand out with their high abilities, produce different and innovative solutions by using their creative thinking skills, and develop themselves with their commitment to a particular task and field.

Gagné (1991, 2009, 2020) claims that giftedness and talent are two distinct concepts and advances this differentiation into the theoretical framework with the differentiated model of giftedness and talent (Gagné, 2009), which has undergone various revisions over the years. According to this model, in which talent development is emphasised, an individual must be in the top 10% in the talent areas to be considered gifted or talented (Gagné, 2004). Moreover, this model also explains how giftedness is transformed into talent. Gagné (2020) argues that giftedness is based on biological foundations and is needed for the development of talent. According to this perspective, talent emerges over time through the systematic development of giftedness, transforming it into a set of skills in the arts, sports, science, and mathematics. Every gifted individual may not necessarily be able to transform their high potential into talent as talent development is influenced by individual factors (e.g., motivation, self-management, and personality) and environmental catalysts (e.g., family relationships and school factors) (Gagné, 2010). In addition to these, variables that are described as chance factors, which

affect environmental factors, such as having an aware family or losing one's abilities as a result of a traumatic accident, also have an indirect influence on talent development, with limited impacts acknowledged (Gagné, 2020). When considering the differentiated model of giftedness and talent (Gagné, 2009) in the context of 2E, it can be concluded that, apart from individual and environmental catalysts and chance factors, the exceptional circumstances of 2E students further complicate the development and demonstration of talent and high performance in these students.

2.1.4. Education of Gifted Students in the UK

Efforts to understand giftedness can ensure that the special educational needs of more talented individuals are met. In the UK, the introduction of selective grammar schools following the Education Act of 1944 has been described as a turning point for the education of gifted students (Casey and Koshy, 2013). Although such schools aim to educate young people who are considered more academically able, the objective is to provide an egalitarian and inclusive approach for all students in the education system (Monks and Pfluger, 2005). In addition to grammar schools, that still exist today, many educational foundations were established with the aim of supporting gifted and talented children in the UK. The National Association for Gifted Children (NAGC) was established in 1967 to meet the academic, social, and emotional needs of highly able learners from all age groups and different social and cultural backgrounds (MENSA, 2022; Potential Plus UK, 2022). This organisation was renamed Potential Plus in 2013 and is still operating under the name of Potential Plus UK.

In order for high potential students to realise their potential, it is essential for teachers to be aware of students with special educational needs and equipped to support them. For this purpose, the National Association for Able Children in Education (NACE) - an independent charity, was founded in 1983 to develop opportunities for more able students and to work with teachers and school leaders for training in English and Welsh schools. Founded as a pilot model based at the University of Warwick in 2002, the National Academy for Gifted and Talented Youth (NAGTY) aimed to provide opportunities for more able children up to the age of 19 studying in English Secondary schools, including Grammar, private or state schools (DfCSF, 2009; NACE, 2022). The organisation supported schools to identify students with high potential between the ages of 11 and 19 years, focusing on school achievement of the students but also a variety of abilities (e.g., art and sport). The latter ensured that

underachievement was not an obstacle to identifying gifted and talented students or allowing them to benefit from the programme. Although positive results were ultimately achieved by this government-funded project, such as accessing more than 200,000 children to be supported and training thousands of teachers, the NAGTY was ended in 2007 as the University of Warwick did not renew the contract, followed by the disbanding of the Gifted and Talented G&T scheme in 2010 (Dimitriadis, 2010; Koshy and Pinheiro-Torres, 2013; Loft and Danechi, 2020). Dimitriadis (2010) points out that NAGTY 's closure was attributed to various factors, including the criticism that they allocated substantial funds towards expensive summer schools primarily benefiting middle-class students, while neglecting daily practices in regular classrooms and failing to raise educational standards (NAGTY, 2004). Furthermore, an Ofsted report (Ofsted, 2004) highlighted that a significant number of schools in inner city areas did not effectively identify or assess the accomplishments of high-achieving students (Dimitriadis, 2010).

The G&T Programme, established in 2002 by the United Kingdom government and applied in schools of England and Wales (Koshy et al., 2012), aimed to enhance the educational development and realise the full potential of intellectually able students aged 4-19. As part of the programme, teachers were responsible for identifying intellectually gifted students who constituted the top 10% of each school and devising suitable education plans for them. Additionally, each school was required to have independent programmes and policies to monitor, process, and assess the development of gifted and talented students (Casey and Koshy, 2013). The programme assigned significant responsibilities and power to schools and teachers. Eyre (2009) argues that in order to ensure sustainability in the programme, schools were expected to adopt a model that recognised individual differences while balancing their needs and available resources, regardless of whether this applied to students with special needs or others. Moreover, teachers, as both instructors for highly able students and for other students, were required to possess decision-making authority and prioritise the needs of students, thus requiring a teacher profile that could cater to these demands. However, due to its inability to meet these expectations in the short term, this programme was subjected to criticisms regarding the quality of education not being improved despite significant investment, the education of gifted and talented students taking up a disproportionate amount of resources within the overall education system, and the impeding of the progress

of general education. In 2010, the G&T Programme was abolished, and the funds allocated for this programme were transferred to disadvantaged students who wished to pursue higher education (Casey and Koshy, 2013). Since the abolition of the G&T Programme in 2010, neither a national definition has been provided for 'gifted and talented' students nor have these students been supported through a national support program (Loft and Danechi, 2020). The abolition of the G&T Programme, coupled with the absence of a national identification and support programme, may also hinder the recognition of 2E students, leaving them at risk of being overlooked and underserved in the education system in England. Koshy et al. (2018) highlight that gifted and talented students have not been prioritised in education policies in England since 2010, with more emphasis on equal opportunities. With the new teaching standards that were introduced in 2012, schools were encouraged to identify gifted and talented students; however, these standards proved inadequate in meeting the needs of gifted students (Boettger and Reid, 2015; DfE, 2013). In addition, Ofsted (2013) published a report stating that the majority of gifted and talented pupils in non-selective secondary schools in England are struggling to reach their potential. This report also reveals that identifying gifted students and meeting their educational needs are in the responsibility of school authorities and teachers (Koshy et al., 2018). Accordingly, there is a need for a national strategic plan that provides guidance on how to identify student potentials and teaching standards meeting the needs of gifted students to be developed by the government (Sahlgren, 2018).

Although Wales had a joint programme with England through G&T until 2010, it currently has different provisions for gifted and talented pupils (Loft and Danechi, 2020). The Welsh Government uses the terms 'more able' and 'talented' to describe gifted and talented children and, unlike in English schools, pupils in the top 20 per cent of schools are recognised as more able and talented (Monks and Pfluger, 2005). Moreover, the more able and talented learners in Wales are supported by an organisation called the Seren Network. This organisation collaborates with the Welsh government and other educational institutions, including universities and state schools, to provide support for students starting from Year 8, both in line with their abilities and to help those preparing for university entrance to gain admission to prestigious universities (Egan, 2020). In addition, the new curriculum, introduced from 2022, aims to address the diverse abilities, interests and strengths of all

students, including the more able and talented, in Wales and to focus on removing barriers to learning (Loft and Danechi, 2020).

In Scotland, the Education (Additional Support for Learning) (Scotland) Act 2004, which has been in force with some amendments since 2004, aims to support not only the education of pupils with special needs but also that of highly able children. Under this Act, schools are required to provide appropriate support to enable gifted and talented pupils to fulfil their potential (Loft and Danechi, 2020). Moreover, the Scottish Network for Able Pupils (SNAP), based at Glasgow University, is a network organisation that works with local authorities to provide guidance for parents of gifted children and training workshops for educators in Scotland (Sutherland and Stack, 2014). This organisation not only raises awareness about gifted and talented pupils but also plays a role in the development of policy and practice at the local level (Loft and Danechi, 2020; Sutherland and Stack, 2014).

As in Scotland, schools in Northern Ireland also support gifted pupils in a variety of ways to develop their potential. This includes differentiating tasks on account of their abilities, providing challenging activities in lessons for gifted learners who are academically ahead of their peers, and encouraging the students to participate in extracurricular activities that will allow them to develop their talents (Loft and Danechi, 2020). In addition, a child who is recognised as gifted in primary school and shows the ability to join a higher class can be considered for transfer to a post-primary school a year earlier, considering the emotional and social development of the child, in consultation with the principal, parents and the board of governors (Loft and Danechi, 2020; NI Direct, 2024). This illustrates that the education of gifted children in Northern Ireland is addressed through initiatives of schools rather than acts which could formulate the framework of educational policy for them (Cross et al., 2018).

Eyre (2004) argues that a country's education system should aim to provide a suitable education for all children without separating the education of highly able students from general education; in addition, programmes and policies for gifted students should not constitute a large portion of the education system so that a consistent and more comprehensive understanding of education can be developed. Although gifted students possess exceptional skills, their social and emotional needs should also be considered, and their varied interests, enthusiasm and motivations in different fields should also be

discovered (Cross, 2002; Ferguson, 2021; Murdock-Smith, 2013; Van Tassel-Baska, Cross and Olenchak, 2021).

2.1.5. History of Twice-Exceptionality (2E) and Terminological Studies

While there have been significant advancements in inclusive education on a global scale, particularly in terms of integrating students with disabilities into mainstream schools, there has been ongoing discussion regarding the progress made in addressing the specific needs of a distinct group known as 2E students (Gierczyk and Hornby, 2021). These students possess both disabilities and exceptional gifts or talents, making it more challenging to identify and cater to their needs compared to gifted students whose high academic achievements or remarkable abilities are easily observable (Coleman et al., 2005). To promote advancement in the field of 2E education, it is crucial to take initial steps towards identifying and assessing their needs, thereby increasing their visibility (Gierczyk and Hornby, 2021).

The historical origins of 2E can be considered in a transformative journey in which the concepts of giftedness and disability were initially approached separately but eventually converged into a single framework (Baldwin et al., 2015; Kaufman, 2018; Reis and McCoach, 2002). This development represents a significant step towards a more comprehensive understanding of and approach to the 2E concept, as it signifies this complex relationship and the recognition of the intricate interplay between exceptional abilities and disabilities in individuals (Prior, 2013). Beginning in the late 1970s and through the early 1990s, the work of researchers such as Maker (1977), Whitmore (1980), Dixon (1983) and Baum et al. (1991) paved the way for the emergence of the 2E concept, emphasising the idea that students cannot be classified solely on the basis of intelligence tests and that other characteristics should be taken into account in special education (Baldwin et al., 2015). This suggests that in the history of gifted education, popularised IQ tests have primarily aimed to identify students with high IQ levels, while the potential presence of learning difficulties or other exceptionalities among these students was not adequately considered (Kaufman, 2018). However, the inherent nature of giftedness as an abstract and elusive concept, lacking a quantifiable measure or rigid definition, underscores the need for a thorough investigation and further development of the research topic of 2E (Demir and Done, 2022).

Elkind (1973) raised the issue of what kind of disability might be present alongside giftedness by using a specific term in the publication of *The Gifted Child with Learning Disabilities* (Baldwin et al, 2015). The book published by the Council for Exceptional Children (CEC) in 1977, 'Providing Programmes for Gifted Handicapped', first addressed programmes for 2E students, and mentioned that high potential students might have a deficit that can cause their gift to be hidden (Assouline and Whitman, 2011). Able students identified as having disabilities were, thus, called 'gifted handicapped' and deemed a special population with different needs by the Educational Resources Information Centre (ERIC) (Whitmore and Maker, 1985 cited in Lovett and Lewandowski, 2006). These studies helped increase the recognition and awareness of 2E and expand understanding and interpretations of disability and giftedness. Moreover, they highlighted the argument that gifted students may also have learning or developmental difficulties and that more appropriate educational strategies and programmes should be developed to maximise their potential to meet their individual needs (Ashman and Elkins, 2011; Prior, 2013). In the 1980s, certain organisations in the United States, such as the Board of Cooperative Educational Services, initiated efforts to support high-potential students with learning difficulties, raise awareness, and pave the way for the development of programmes tailored to these students (Kaufman, 2018). Furthermore, the National Association for Gifted Children (NAGC) has taken significant steps towards supporting research endeavours focused on the exploration of subgroups within the high-potential population characterised by multiple differentiations (Kaufman, 2018). This suggests that the studies related to 2E have not been limited to conceptualisation and definition alone, encompassing a broader scope of inquiry. In this regard, Brody and Mills (1997) propose that individualised instruction is ideal for high-potential children with learning disabilities, emphasising the need for educators to both nurture their strengths and provide support for their specific needs in educational settings. The emergence of discussions on how the educational environments for 2E students should be and the need for an appropriate educational approach reflects significant progress in this field. These advancements have focused on understanding the diverse learning needs of 2E students and adopting more suitable strategies to meet those needs.

The conceptualisation of 2E, which is also considered in historical context, began with the development of the perspective that giftedness can have multiple dimensions and further

studies related to this subject have continued to the present to establish a solid theoretical ground (Prior, 2013). Indeed, some studies (e.g., Ashman and Elkins, 2005; Baum et al., 2001; Cline and Hegeman, 2001; Coleman, 2001; Karnes, 2004) reflected these conceptualisation efforts through the use of terms such as disabled gifted or gifted students with learning disabilities, highlighting the foundation of the 2E concept. These terms are utilised to explicate, define, and illuminate the paradoxical nature of 2E, shedding light on the simultaneous presence of seemingly contradictory exceptionalities within individuals. Upon thorough review of the literature, it becomes apparent that the conceptualisation and utilisation of the 2E term and research for dual or multiple exceptional children do not have an extensive historical foundation, suggesting that it is a relatively recent construct that has gained prominence in academic discourse (Baldwin et al., 2015; Neihart, 2008). Accordingly, the first official studies on 2E children were launched by John Hopkins University in 1981. Thus, it became clear that by increasing awareness in this area the information gap should be eliminated and more work should be done. In this respect, Fetzner (2000) coined a term of dual exceptionality which is close to today's most used term (Prior, 2013), and ultimately, the term twice-exceptionality, which is also used in this study, was first introduced into the literature by Gallagher (2004) in order to better describe dual exceptional learners (Boothe, 2010). Some terms such as gifted learning disabled or 2E are still used commonly and interchangeably in studies associated with learning disability and the education of able children (Prior, 2013).

In the context of the United Kingdom, individuals with 2E characteristics are referred to as dual or multiple exceptional, highlighting the unique combination of exceptional strengths and challenges that they possess (Yates and Boddison, 2020). Aligned with the prevailing terminological framework in the UK context, Baum et al. (2001) made a substantive scholarly contribution by popularising the concept of "dual differentiation," which underscores the simultaneous manifestation of distinct exceptionalities within individuals, while Wormald and Vialle (2011) further advanced the discourse by promoting the term "dual exceptionality," emphasising the multifaceted nature of exceptional conditions experienced by 2E individuals. These diverse etymological investigations in the field of 2E further enrich the perspectives on this subject, facilitating the comprehensive evaluation of 2E from such varied perspectives.

When examined in the historical context of 2E, as evident from the aforementioned studies, the process of defining and applying terminology to 2E has a relatively short history, serving

as a starting point for future research. This perspective provides a clear demonstration of how and in what direction 2E has evolved during the history of research related to 2E. Additionally, Renzulli and Gelbar (2020) contend that subsequent to these terminological and identification efforts, most studies focused on the understanding of the co-existence of giftedness and specific exceptionalities, with learning disabilities being one of the exceptionalities that constitute 2E. However, recent studies suggest that besides learning disabilities, conditions such as ADHD, autism, anxiety, and depression can also co-exist with giftedness, forming 2E and representing one of its exceptionalities (Anderson et al., 2018). In short, considering the historical evolution and advancements in the field of 2E, it becomes evident that the scope and research domains of 2E have significantly expanded over time, accompanied by an increasing diversity of factors encompassed within the concept of exceptionality. Thus, it can be regarded as a crucial step towards a comprehensive understanding of 2E to approach it from a broader perspective and consider a wider range of factors within this context. This dynamic evolution highlights the necessity of incorporating a more nuanced and diversified framework to fully comprehend the intricacies of 2E and its complicated and multifaceted nature.

2.1.6. Interplay of Histories and Implications for Policy and Practice

The comprehensive examination of giftedness, SEN, and 2E, as described above, from a broad perspective, underscores a significant aspect in comprehending and developing current policies and practices. The analysis of how policies and practices regarding giftedness and special education have been shaped, which approaches have been adopted, and which challenges have been identified to overcome, becomes evident when viewed from a historical perspective; therefore, past experiences and achievements serve as valuable resources for today's policymakers and implementers (Lindsay et al., 2020).

The area of SEND has a long historical background in the UK, even longer than that of giftedness, in terms of policy and practice (Montgomery, 2013). Initially, giftedness was seen as a separate area from special education, but later it was subsumed under the umbrella of SEND, leading to advancements in the scope and practices of giftedness (Heller et al., 2000). This implies that in addition to students with learning disabilities, gifted and talented students can also be included in the scope of SEND and provided with special education services to meet their diverse needs (Montgomery, 2015). For instance, in Scotland gifted and talented

pupils are assessed under the term of additional support needs (ASN), which is used instead of SEN, as other children with special needs, and thus special education is viewed in a more holistic way (Loft and Danechi, 2020). However, studies on 2E illustrate that this field does not have a very long history and still requires further development in areas such as diagnosis and curriculum (Baldwin et al., 2015). Some studies, beginning in the 1980s (e.g., Whitmore, 1980), increased the belief that most gifted children do not exhibit the expected level of academic performance in education settings, suggesting that these children may have an additional exceptionality. This development, in turn, has sparked greater interest in 2E, leading to a proliferation of studies in this area and ultimately to enhanced awareness and improvements (Montgomery, 2013).

The Salamanca Statement of 1994 highlights the importance of the inclusion concept in the context of exceptional abilities as well as disabilities, emphasising the need to consider individual needs and provide adjusted educational approaches accordingly (UNESCO, 1994; Prior, 2013). Inclusion is a vital principle in the SEND context, emphasising the importance of ensuring equal participation and opportunities for all individuals and encompassing not only disabilities or high potential but also all groups that are marginalised and deviate from societal norms through, for example, gender, emotional and behavioural issues, family culture, ethnic origin, and gifted migrants (Rouse, 2012). Since inclusion is fundamentally based on valuing individual differences, there is a high likelihood of acknowledging individual differences for 2E students as well, which facilitates the recognition of the combinations that constitute 2E and their access to educational opportunities. Therefore, in order to determine the extent to which solutions are found to the problems faced by 2E students in education, it is necessary to examine how well the school management reflects the concept of inclusion within the school (Assouline and Whiteman, 2011; Prior, 2013; Rouse, 2012).

Despite the global acceptance of inclusive education in education policies during the 20th century, it has faced criticism over time due to the belief that students with special educational needs are better served by receiving education according to their specific needs (Shaw, 2017; Warnock and Norwich, 2010). While progress regarding SEND may be subject to ongoing debates, it can be argued that these developments serve as guiding principles for future endeavours in the field. For instance, the Education Act of 1981 and the Green Paper of 1997, inspired by Warnock (1978), have played a crucial role in advancing and protecting

the rights of children with SEND (Lindsay et al., 2020). The implementation of a national curriculum through the Education Reform Act of 1988, which included students with SEND in mainstream schools, marked a noteworthy development, however, it also raised concerns about the increased burden on students who were unable to meet national standards, thereby highlighting the importance of individual differences (Chitty, 2008; Clough, 1998). This practice was also criticised due to the possibility of neglecting special educational needs to comply with national criteria (Nutbrown and Clough, 2006). In short, inclusion and inclusive education, which are recognised as international issues, are significant factors in shaping special education policies in the UK and other countries, when examined in the historical context of SEND policies and regulations (Croll and Moses, 2000).

The expansion of the scope of the two combinations, which arise as giftedness and learning difficulty or other conditions and constitute 2E when occur together, also leads to developments in the field of 2E when these two paradoxical exceptionalities are considered separately (Yates and Boddison, 2020). Researchers such as Gardner (1983) have introduced alternative perspectives and broader frameworks with the theory of multiple intelligence for understanding giftedness, primarily by exploring a range of diverse intelligence domains, such as physical abilities, musical talents, and social-emotional intelligence. This broader perspective acknowledges that gifted individuals can exhibit their exceptional abilities in various areas and exceptional giftedness is not solely confined to performance on intelligence tests (Baldwin et al., 2015). Thus, the expansion of the concept of giftedness beyond conventional metrics simultaneously contributes to the progress of the field of 2E. Furthermore, along with the significant advancements in the understanding of giftedness, the scope of other dual differentiations that constitute 2E has also been expanded through scholarly endeavours (Renzulli and Gelbar, 2020; Ronksley-Pavia, 2015). Studies have established that in addition to learning difficulties, conditions such as autism, ADHD, and other physical and socio-emotional disorders can constitute other exceptionalities of 2E (Anderson et al., 2018). By recognising and valuing diverse distinctive characteristics, researchers and practitioners have fostered the emergence of more inclusive and effective approaches to supporting individuals with exceptional talents and learning difficulties. Montgomery (2013) notes that the UK has witnessed a growing inclination towards meeting the needs of high potential students. However, the National Curriculum in England and Wales

has been designed to accommodate the average student's capabilities and address their educational requirements, thus underscoring the importance of individualised programmes for high potential learners in this regard (Dimitriadis, 2010). Prioritising teacher training and the enrichment and diversification of the national curriculum would therefore make substantial contributions to gifted education in a practical sense, enhancing awareness and providing a higher quality educational environment to meet the needs of high potential students (Dimitriadis, 2010).

Considering that the presence of high-potential students in schools entails the possibility of recognition of their additional needs and other exceptionalities; it is expected that SENCOs play a role in identification of dual and multiple exceptionalities, or at the very least, endeavour to enhance their knowledge and awareness in this area, with the encouragement and support of the school administration (Yates and Boddison, 2020). The 2015 SEND Code of Practice stipulates that each school in England must have a SENCO, who should hold a senior management position and possess decision-making authority regarding children with special needs (DfE and DoH, 2015). In this regard, having a SENCO with knowledge of 2E who can make informed decisions can facilitate a better response to the educational environments and other needs of 2E students (Yates and Boddison, 2020).

Prioritising continuous professional development for educators and SENCOs is essential, ensuring they remain informed about the latest research and methodologies for addressing the distinct needs of 2E students. Educational policymakers should emphasise the development of a detailed and comprehensive approach for recognising and supporting 2E individuals within mainstream schools. Integration of these considerations into overarching educational policies can lead to a more inclusive and responsive system, nurturing the diverse talents and challenges of all students, including those with dual exceptionalities. Highlighting adaptable teaching methods, inclusive curricula, and a culture that values neurodiversity additionally improves the educational environment for 2E learners, creating a setting that acknowledges, embraces, and optimises the capabilities of each student.

2.2. UNDERSTANDING OF DIVERSITY AND INCLUSION

The concept of diversity and individual differences will be explored from a philosophical perspective in this section. Levinas` (1981) theory of othering will be introduced to underscore the critical value of embracing individual differences and the significance of inclusion for 2E learners and other marginalised groups. Additionally, the theories of philosophers of difference such as Deleuze and Guattari (1987), Derrida (1976), and Foucault (1977), as outlined in a seminal text in the inclusion literature by Allan (2007), will be examined as they are known for their insights and conceptualisation efforts on diversity. At the core of these theories is the insistence that there should be no standardisation of diversity, and that such standardisation will hinder the creation of inclusion both in educational settings and in society. The rejection of standardisation suggests the adverse impact of imposing uniformity on diverse populations, while also opposing forms of control that contradict the principles of embracing and celebrating diversity, thereby inhibiting the flourishing of individual expression and cultural variety.

Foucault's (1977, 2007, 2008) concept of governmentality, particularly, will be used to explain how the management of potentially unruly sub-populations through policy discourse, the power associated with knowledge, and normativity can negatively affect individuals' perception of diversity, as they dictate standards in both education and society. This section will therefore explore the sociological and philosophical reasons underlying the marginalisation of 2E learners and other students in special education, while also presenting these theories as a potential framework for integrating these individuals into society and formulating how to foster an inclusive environment that acknowledges and values their unique individual differences.

Vygotsky's (1993) ideas on how education that serves diversity should exist will also be included in this section. Vygotsky (1993) highlights the significance of identifying children`s disabilities, while also addressing negative societal and environmental factors and aiming to reduce potential harms that may arise from such environments (Bøttcher & Dammeyer, 2012). In this context, Vygotsky's (1993) ideas point to the congruence between needs and environment and argue that this congruence serves as a foundation for creating an educational environment that recognises and caters to the strengths and challenges of each

student, meeting their needs. This supportive model of education, which can help children overcome their disabilities and discover their potential, also fosters diversity and inclusion (Vik and Somby, 2018).

2.2.1. Concepts of Difference

The inclusion of those displaying challenging behaviours within the population of children with special educational needs is increasingly becoming an area of complexity for both their peers and educators (Armstrong, 2018). The underlying cause of these behaviours in this context is the failure to fully and accurately identify, or the misidentification of, individual differences (Wilkin et al., 2005). This phenomenon raises concerns about the motivation of teachers to fulfil the needs of all children and young people and address the differences evidenced by students. With the retraction of Warnock's (2005) advocacy of full inclusion, the existing inclusive education approach has been criticised for implementing a 'segregated school model' (Allan, 2008; Warnock, 2005). This indicates the necessity for a revision of inclusive education and creates opportunities for the consideration of alternative perspectives in regard to the integration of individuals with special needs within mainstream education (Allan, 2007). It must be acknowledged, however, that identification of 2E relies on conceptual tools (Vygotsky, 1978) which are largely derived from policy discourse as a technology of government (Foucault, 2007, 2008) and the SEND Code of Practice (DfE and DoH, 2015) fails to recognise 2E in its classifications of conditions. Teachers dealing with challenging behaviours may resort, in Foucault's (1977) terms, to disciplinary power in order to render unruly student bodies more docile and fail to recognise non-conformality to behavioural norms as symptomatic of 2E.

McLeskey and Waldron (2006) argue that embracing and valuing difference will also improve inclusive education and enable educators to recognise differences in both special education and mainstream settings, and to develop a deeper understanding of the unique needs of students with special educational needs, thereby promoting the cultivation of a more just and equitable society. Allan (2007) claims that efforts to integrate students with special educational needs into mainstream classrooms and socially through traditional methods of inclusive education, such as a standardised curriculum, strict behaviour policies, teacher-centred education and accommodations that limit creativity, have failed to address the unique strengths, and needs of these individuals. In order to create an authentically inclusive

environment, it is necessary to embrace differences. Moreover, the concept of difference is not only limited to individuals' characteristics, but also encompasses their cultural, linguistic, and socio-economic backgrounds, as well as their unique needs and challenges, in terms of disabilities and learning difficulties, and this should be acknowledged and respected in educational settings. Crenshaw's (1989) concept 'intersectionality' is relevant here as it describes the complex interplay of individuals' identity factors. Accordingly, intersectionality recognises that individuals possess multiple intersecting identities such as gender, race, and ability that cannot be considered independently of each other, and that these intersecting identities interact to shape unique experiences of privilege or oppression (Crenshaw, 1989). In this context, it can be inferred that 2E individuals should not be approached only in terms of their 2E characteristics and evaluated independently from the other social identities they have. For this reason, these complex intersections (as well as differences referring to gender and socio-cultural factors) should be acknowledged to contribute to more equitable and inclusive environment. This broader perspective would include consideration of the way socio-economic status might condition the lived experience of 2E. According to Taylor (2017), the phenomenon of diversity in special education is shaped by various socio-historical, political, and cultural factors, thus acquiring a multidimensional character and potentially assuming new meanings within the framework of the educational system. That is, the understanding of difference should be expanded beyond its educational dimension and its reflections in education can be aligned with this broader perspective. The way society understands and constructs differences, which is a central theme in, for example, critical disability studies (Goodley, 2013) and inclusion studies (Allan, 1999), has a significant impact on the provision of special education services.

Diversity in education, with associated specialised instruction to address unique needs and talents, is becoming increasingly significant. These differentiated instructions ensure that students with special educational needs face appropriate challenges, have opportunities for success and feel a sense of belonging (Mastropieri and Scruggs, 2017). This approach is intended to make special education more inclusive and equitable for all students. Based on the concept of diversity, it is necessary to recognise that 2E students can possess unique challenges and abilities and that these exceptionalities should be identified and supported in a non-stigmatising manner through the transformation of dominant and sedimented

normative discourses. Florian and Beaton (2018) argue that emphasising individual differences may pose the risk of marginalising individuals and could hinder the facilitation of their collaborative skills, thus complicating their inclusion. However, diversification of needs and strengths is not an attempt to other (Levinas, 1981) them but rather to ensure that their needs are specifically met and that they are better adapted to mainstream classrooms and society. Thus, diversity offers a different approach to inclusive education in this respect, emphasising the need for mutual adaptation in which schools must also adapt their practices and cultures in response to the diverse needs of their students.

Differentiation can be used as a method of tailoring instruction to meet the unique needs of individuals in special education and promote academic success; however, it is important to consider the potential risks associated with labelling, which may have detrimental effects on the overall effectiveness of this approach (Lloyd, 2017; Tomlinson, 2014). It is crucial to note that, while differentiation is a necessary aspect of special education, it should not be conflated with labelling.

Oswald and Coutinho (2015) state that differentiation should be considered as an approach to support all students, not only those with special educational needs. This approach conveys the principle of the 'uniqueness of individuals' in special education and helps to reduce the stigmatisation associated with labelling. To avoid labelling, Ritter and Pretti-Frontczak (2018) suggest that educators should adopt a strengths-based approach that focuses on the child's abilities rather than their deficits. This can be achieved through formative assessment, which allows teachers to gather information about the child's needs and abilities and adjust instruction accordingly (Tomlinson, 2014). By creating a supportive and inclusive learning environment for all students, educators should help to prevent the negative consequences of labelling for all students, especially those with special educational needs. This perspective emphasises the need to move beyond general definitions of special educational needs, and to instead focus on meeting the unique needs of students in a way that supports their success and well-being, without resorting to labelling. Given the exceptional learning disabilities and abilities exhibited by 2E students, it is reasonable to contend that these individuals are particularly vulnerable to being stigmatised as a result of the current categorisation and classification of their exceptionalities.

2.2.2. Phenomenological Perspective: Levinas` Theory of `Othering`

In the philosophy of Levinas (1981), the concept of the `Other` holds a significant position in comprehending the nature of human relationships and the ethical responsibilities that arise from these interactions (Moran, 2002). For Levinas, the Other refers to the subjectivity and singularity of the other person, while the concept of `otherness` is the state of being different or distinct from oneself (Fournier, 2002, p.69). Levinas (1981) presents these terms in an approach that recognises the uniqueness of others and challenges the self-centred nature of humanity, highlighting that it is natural and valuable for people to be different from each other (Fournier, 2002; Moran, 2002). In addition to these concepts, Levinas also introduces the idea of othering, which pertains to the act of reducing the Other to an object rather than recognising their subjectivity and singularity. The process of othering is not only unjust but also represents a failure to recognise the ethical responsibilities that derive from the interactions of people with each other (Levinas, 1981, 1998; Muhr, 2008).

Othering is often evidenced in the way that individuals and societies tend to stereotype, marginalise, or oppress certain groups of people (Critchley, 1999). Similarly, in the context of special education, othering can be observed in how students with special educational needs or disabilities are often perceived as different or deficient, rather than being recognised for their unique abilities and potential. Hence, twice-exceptional students, who possess both exceptional abilities and special needs, are also vulnerable to the process of othering. These students are often misunderstood and misdiagnosed, leading to a lack of appropriate support and services, which can result in further marginalisation and a lack of opportunities for academic success (Wang and Neihart, 2015).

Despite the negative outcomes, the phenomenological theory of othering, as proposed by Levinas (1981), emphasises the importance of recognising the individuality of others as the foundation of an ethical relation and viewing them as a source of ethical responsibility (Bernasconi and Critchley, 2002). Thus, self-interest is transcended by recognising the subjectivity and singularity of the other, and the establishment of a meaningful connection with others which is accomplished by caring for the other`s needs and well-being as an ethical responsibility (Levinas, 1981). The phenomenological theory of difference, in this sense, encourages people to view others as unique individuals with their thoughts, feelings, and experiences, rather than treating them as mere means to their ends. As the theory calls for

an approach that recognises the unique abilities and potential of all students, especially those with special needs and disabilities, and that can prevent the process of othering these students, it has particular relevance in the context of special education, particularly when considering twice-exceptional students or children with special educational needs.

In line with the theory of othering, even if a child has been diagnosed with a certain condition (e.g., ADHD), it is important to approach the child by acknowledging the unique differences brought about by that individuality, rather than resorting to stereotypes and biases. Additionally, students who contribute to othering by acts and words should be guided to accept diversity and singularity and change their attitudes. To achieve this, classes should be as diverse as possible, comprising groups that are different ethnically, culturally, and racially. All these educational and awareness efforts contribute to the formation of a more inclusive and respectful society (Banks and Banks, 2019). Everyone is inherently different from one another, and this difference is acknowledged and embraced by society and individuals, which leads to a decrease in othering. This requires marginalised groups to have more interactions with people in their surroundings (Banks and Banks, 2019) and challenging the segregated education model (Qu, 2022).

2.2.3. Philosophers of Difference

The inclusion of children with special educational needs is a multifaceted and ongoing process that requires careful attention to the individual needs of each child, as well as to the broader social and educational contexts in which they learn. It is essential to consider the attitudes and beliefs of school staff, students, and families towards inclusion, as these can impact the success of the mainstreaming process. Inclusion studies that rely solely on quantitative measures of integration, such as time spent in regular classrooms or available resources, fail to capture the complexities of the educational experiences and social interactions of children with special educational needs (Slee, 1993). A more comprehensive understanding of inclusive education requires an examination of the quality of social interactions and relationships that children with such needs develop in inclusive classrooms, as well as the types of academic and social support they receive (Allan, 1996).

Done and Andrews (2020) address the more contemporary problems of inclusive education, noting that students who have or may have special educational needs are subjected to an

intensive process of inspection affecting both teachers and students, resulting in increased demands on teachers and an increased risk of exclusion or discrimination for many students. This type of surveillance is evocative of Foucault's (1977) disciplinary power that differs from pastoral power (Foucault, 1982) which relies on particular individuals – religious leaders of a community, to instruct and care for members of that community. Although the emphasis in pastoral power is on the moral wellbeing of individuals and communities, there are continuities between practices associated with it, such as confession, and practices associated with neoliberal governmentality, such as the requirement to give an account of oneself in school disciplinary procedures (and at interview). As Martin and Waring point out, both pastoral power and neoliberal governmentality involve “the same political structures of individualization techniques and of totalization procedures” (Foucault, 1982, p. 782 cited in Martin and Waring, 2018, p.2).

Current inclusive education practices may thus be insufficient to improve the educational experiences of students and there are systemic problems that need to be addressed. Done and Andrews (2020) also note that the competitive individualism promoted by neoliberal education systems increases concerns about student mental health and discrimination. Totalising surveillance through school performance league tables and comparisons of academic performance data coincides with individualising techniques of neoliberal governmentality such as responsibilisation (Foucault, 1982) whereby, for example, students and teachers are required to take responsibility for school performance data. All these problems prompt debate on full inclusion or diversified educational environments (Slee, 2011).

Successful implementation and equitable access to inclusive education require continual critical reflection, adaptive practices and innovative strategies that meet the complex and multifarious demands of students. While difficulties related to inclusive education persist, multidimensional approaches and solution proposals can bring new perspectives to issues surrounding inclusion. Allan (2008) draws on the poststructuralist philosophy of Deleuze and Guattari (1987) to develop a new approach to inclusive education, using Deleuze's (2004) concept of difference as a starting point and arguing that traditional models of inclusion tend to homogenise and standardise difference, which can lead to exclusion and marginalisation. Instead of upholding traditional assumptions about inclusive education, a model is proposed

that embraces difference and diversity as valuable resources for learning and growth. Mobilising Deleuze's (2004) ideas on the importance of forging new connections and relationships to create a more inclusive and equitable education system, Allan (2008) reimagines the concept of inclusivity, offering new possibilities for thinking about and implementing inclusive education. Allan (2008) describes Deleuze and Guattari, Derrida and Foucault as philosophers of difference and, according to Patton (2000), their approaches to identifying marginalised social groups can assist in the development of a diversity-based politics accepted by the majority and reflected in policy discourse.

Deleuze and Guattari (1987) do not provide definitive answers on how to address the issue of inclusion, but they do introduce novel perspectives that can help better comprehend it, including concepts such as "new lines of flight" (p.161) which suggests that resistance to the status quo is always possible. Additionally, to challenge the traditional configuration of thinking and learning, which is often structured hierarchically and reliant on binary logic (e.g., good-bad, able-disabled) that inhibits diversity, Deleuze and Guattari (1987) introduce the concept of the rhizome or rhizomatic thought that emphasises connectivity, multiplicity, and fluidity. Roy (2003) argues that rhizomatic thinking in relation to learning liberates individuals from the limitations of linear models and fosters unlimited connections, facilitating the generation of novel ideas and the deconstruction of existing structures. When these structures are dismantled, there is a need to reconstruct new ones that challenge the established order; thus, this type of thinking enables continual development and advancement in the learning process (Allan, 2008). A rhizomatic approach, in the context of special education, provides diversity and connectivity and encourages educators to recognise the unique strengths and perspectives of each student and to create a more collaborative and inclusive learning environment. It implies opposition to a traditional special education system which organises students hierarchically and standardises through their placement into categories based on perceived deficits, and which perpetuates negative stereotypes and risks limiting the potential of students with disabilities (Allan, 2008).

Deterritorialisation, another concept introduced by Deleuze and Guattari (1987), is a process of breaking existing codes in order to open up new possibilities (Howard, 1988; Roy, 2004). It creates a state of chaos or instability that allows for the emergence of new ways of thinking and acting (Deleuze, 1995). Deterritorialisation is related to rhizomatic thinking and refers to

the breaking down of fixed boundaries and structures, which can enable new forms of connection and the creation of new opportunities for learning and innovation. This might involve rethinking traditional concepts of ability and disability and recognising the diversity of human experience and learning.

Derrida (1976) introduced a deconstructionist approach to language and meaning, challenging the non-ideological understanding of linguistic oppositions (day-night, man-woman), and argued that these binary oppositions are, in fact, hierarchically ordered and one term is socially privileged. Such pairs of opposing terms are often thought of as mutually exclusive, highlighting the significance of difference, as featured in Deleuze (2004). One such binary opposition that Derrida (2002) explored is the concept of inclusion-exclusion as inclusion logically implies exclusion; that is, every act of inclusion necessarily involves an act of exclusion because, in order to define a particular concept, it becomes imperative to exclude all other alternatives. Aligned with this viewpoint, it can be argued that a diversity and inclusion policy implemented by an education setting (e.g., university and school) is inherently exclusionary and excludes individuals who do not conform to the established classifications of diversity. Derrida's (1976) critique of dualism, which is characterised by binary oppositions such as disabled versus able-bodied, has had a profound influence on contemporary perspectives on disability. This viewpoint no longer regards disability in opposition to, or as a negative complement to, ability but as a diverse and complex aspect of human experience that is entangled with a range of social, cultural, and political factors (Harpur, 2012).

From a Derridean perspective, although the concept of inclusion may appear as a term aimed at bringing people with diverse needs together, it carries the risk of reinforcing the binary division between disabled and non-disabled individuals. However, as an alternative solution to the inclusion problem in Derrida (1976), it could be considered a new approach that sees the diverse student body as a dynamic and varied group that actively participates in the acquisition of knowledge. This approach emphasises mutual exchange, interconnectedness, and affirmation among students as important factors in fostering a positive learning environment (Harvey, 2018). Although incorporating a diverse range of individuals may require the implementation of affirmative measures to promote inclusion, it has the potential to create a more inclusive environment. Moreover, Derrida's (1976) deconstruction as a methodology could have a significant impact by revealing hidden assumptions and

contradictions in texts, thus opening up new possibilities for thinking and acting outside of dominant social structures (Rorty, 1989). Deconstruction, in this sense, offers a different approach to the reconstruction of existing concepts in special education and inclusive education, allowing for a reinterpretation of these concepts through conventional and unconventional creativity, and opening new possibilities to challenge and understand exclusionary practices (Patton, 2003).

In order to examine inclusive education and inclusion through the lens of Foucault, it is essential to consider his conceptualisation of the role of education as a relay between the state and integral to governmentality; following Foucault (1982, 2007, 2008), education is intimately linked to knowledge, power, and governance, and is viewed as a means of population control to ensure social stability. In his analysis, it is seen as serving the interests and desires of those in power by ensuring the subjectification of students who become voluntary objects of power through, for example, responsabilisation, and as helping to achieve the goals of power by means of behavioural change methods employed in education. In this relationship of education-power-knowledge, education is positioned as a bridge between knowledge and power, and teachers are regarded as individuals who shape behaviour and function as behavioural engineers (Hoskin, 1990). For Foucault (1977), this change in the behaviour of students is ensured by the discipline and punishment applied in educational institutions. The practices of marking, testing, and grouping students based on exams, which are the more acceptable version of disciplinary measures and punitive actions, can contribute to an environment of discrimination (Foucault, 1979). In addition to exams, imposing the same time limit on each student for the same tasks is also viewed as part of this discipline and punishment system (Kohn, 1990). Thus, students who exist in a state of neither complete autonomy nor complete enslavement serve the purposes of power by complying with the criteria specified by normative standards and undergoing a voluntary objectification process in neo-liberal education systems (Jardine, 2000; Sawicki, 1991).

From a Foucauldian perspective, it is important to consider the role of education within neoliberal governmentality, particularly as it relates to the position of students and the dynamic between education, power, and knowledge before discussing inclusion. In such a system, the state utilises education and students as tools to achieve its goals, by reinforcing existing power relations; and this perspective highlights the ways in which education is deeply

implicated in the exercise and maintenance of power within the broader social and political context (Ball, 2012; Foucault, 1977).

According to the theory of education proposed by Foucault (1977, 2008), governmentality and power aim at a standardised educational environment with examinations as a form of discipline and punishment, as this standardisation more easily meets the need of maintaining social stability and existing power relations. Thus, inclusion in such a system also involves an effort to standardise diversity or difference (Allan, 2008). Criticising this system in which education is used as a relay for state power and students are voluntarily objectified and transformed into a manageable form, Foucault (1977) introduces the concept of transgression, which represents a form of resistance to this system. Furthermore, Foucault (1982) argues that power is not only a repressive force but also a productive power that creates new forms of knowledge and subjectivity. This suggests that individuals can resist and challenge existing power structures and norms through transgressive acts, which may lead to the creation of new knowledge and subjectivities (Allan, 2008), ultimately resulting in policy change. That is, resistance against the system and power structures, and alternative ways of thinking, become feasible by utilising the productivity of power in a context where new knowledge and subjectivity are possible. By utilising these opportunities, individuals can establish an autonomous space where they can resist and create diverse avenues for growth and development (Allan, 2008).

The term transgression in Foucault (1977) refers to the ability of individuals to exhibit resistance in areas where they feel standardised and restricted and to assert their right to transcend these standards and limitations. This suggests that individuals possess agency and the capacity to challenge normative boundaries and expand the range of acceptable behaviours. Such transgressive acts may serve as a means of resistance against oppressive structures or as a means of exploring and testing the boundaries of social norms and expectations. Transgression, in this sense, involves defying boundaries and conventions in order to create new possibilities and to construct novel modes of existence and thought for self-expression and self-determination (Allan, 1999). The implication of the philosophies of Deleuze and Guattari (1987) and Derrida (1976) is that the scope of inclusion can potentially expand beyond its existing limits, thus enabling it to take a more desirable form that allows for more diverse and unconventional ideas and perspectives. In this context, the production

of novel concepts and ideas that defy stereotypes may facilitate transgression and lead to a more comprehensive approach to addressing inclusion. In other words, rethinking and broadening the scope of inclusion by going beyond conventional boundaries can provide a way to challenge existing power structures and promote more inclusive social practices (Allan, 2008). In Vygotsky's (1978), such novel thinking might generate new conceptual tools with the potential to transform activity and the socio-cultural context.

The idea of transgression, which involves challenging established binaries, societal conventions, and norms, seems to be particularly applicable to 2E individuals, as they occupy a marginalised space by possessing both exceptional abilities and learning disabilities or differences. This duality challenges traditional categorisations of individuals as either gifted or disabled and can result in these children being overlooked or misidentified by the education system (NCTS, 2020; Schultz, 2012). In this regard, transgression can be seen as a tool for creating more inclusive policies and practices in education and the very existence of 2E students can be viewed as a form of transgression against normative thinking. Consequently, it is crucial to acknowledge and address the distinctive abilities and differences of 2E learners through policies and practices as transgressive acts (Foley Nicpon et al., 2011; Foley-Nicpon and Teriba, 2022). By doing so, the existing limitations and expectations of normative thinking can be challenged and expanded to include a wider range of diverse perspectives and talents and a more equitable learning environment that benefits all learners could be created. The challenge is to ensure that such transgression is reflected in professional and policy discourse, and the wider socio-cultural environment. Without this, the risk of incongruence between disability or special need and that social context remains.

In Allan (2008), it is argued that inclusion is a concept that needs to be reconsidered, and theoretical approaches and practices are recommended to help foster more effective inclusion in education and to reach a desired level of social inclusion. To achieve this, it is necessary to examine the relationship between teachers and students, re-evaluate teacher education, and better understand the nature and process of inclusion research. Additionally, it is important to analyse how inclusion is perceived in society and to consider potential political challenges that may hinder the progress of inclusion (Allan, 2008). Allan (1999) criticises the categorisation and identification of children with special needs, or those included in mainstream education, through a complex assessment process that attempts to

determine what is considered typical and atypical and suggests that this categorisation may not accurately reflect the diverse range of needs and experiences of these children. The process results in these children being continuously monitored through an inspection that is created through a hierarchy of power and knowledge (Allan, 1999, 2008).

Done and Andrews (2020) point out that inspections to ensure standardised criteria are met not only lead to the exclusion of children with special needs but also increase the burden on teachers and undermine the inclusion process. It is therefore important to understand the needs of the students to provide the appropriate resources in the first instance, and to avoid standardisation of assessment by undertaking individual assessments from multiple perspectives in order to reduce the stress of the inspection. Assouline et al. (2010) claim that raising the awareness of teachers and other staff in schools will also help to create the necessary environment for inclusion. Such an inclusive environment can also result in challenging teachers' stereotypical preconceptions about 2E and improvement in students' learning experiences. As the awareness of educators and all stakeholders in the educational process grows, it becomes possible to provide more customised and effective support to 2E students, which can promote better socialisation, a sense of belonging, and understanding among their peers through empathy and mutual respect (Renzulli et al., 2007).

The arguments presented by philosophers of difference suggest that diversity should have a broader scope and that inclusion should not strive to make learners conform to a normative standard. It can thus be inferred that the goal of inclusion should be to embrace as many different perspectives and identities as possible. The process of identification of students with SEND, when evaluated through Foucault's (1982) framework of the interplay between education, power, and knowledge, implies that labels assigned to children are the products of social construction carried out by institutions seeking to exert control over them. Power dynamics within educational and social systems that lead to children being labelled, based on perceived differences from the norm, can impact a child's self-perception and limit their opportunities for growth and development. This is why the primary focus in an inclusive environment should be that of meeting the needs of students with SEND, rather than on their diagnoses, and providing them with support to achieve their full potential without any imposed standards.

2.2.4. Vygotsky's concept of incongruence

Vygotsky's (1978) socio-cultural theory highlights the significance of social interaction in shaping an individual's cognitive development. The theory posits that social experiences and cultural practices have a vital influence on an individual's mental processes, with increased exposure to social and cultural experiences leading to a greater contribution to cognitive development (Bøttcher and Dammeyer, 2012; Rogoff, 1990).

Vygotsky's (1978) theory not only emphasises the importance of social interaction in the learning process but also highlights the role of mediating artefacts (including physical tools like calculators and conceptual tools such as multiplication) in social situations (such as mathematics classrooms) where individuals are working together towards some shared object of activity (such as learning mathematics) (Wertsch, 1994). Mediation was central to Vygotsky's thinking and for him encapsulated the difference between human and animal responses to the environment (Wertsch, 2007:178). As well as the basic biological response to a stimulus, humans also respond via cultural tools, both material and psychological, which enables them to benefit from knowledge accumulated by previous generations. Material artefacts like cups, carts and computers are introduced in social contexts, and their use when acting on our environment is modelled, guided and explained through language, the most important psychological tool that shifts human responses through time and space and between individuals and their social and cultural groups (Wertsch, 2007).

Vygotsky's sociocultural approach to education in general and special education in particular also provides a rationale for key developments in inclusive education. The latter involves various processes, including social learning, social connections, and adaptation to surroundings, all of which enhance cognitive development. Vygotskian theory, therefore, can be considered relevant to the principle of inclusion (Eun, 2016). Although the term sounds inappropriate to 21st Century ears, defectology theory (Vygotsky, 1993) serves as a significant contribution to the field and is regarded as a strategic approach in special education (Kozulin and Gindis, 2007). In Vygotsky's (1993) terms, defectology (*defektologia*) is a discipline originating in Russian research and the study of normatively defined deficiencies. The term specifically pertains to research that involves the educational development of children with disabilities related to the brain and sensory systems (Smagorinsky, 2012). The focus of defectology is the identification and implementation of effective methods or strategies for

addressing primary disabilities that affect speaking, seeing, hearing, and learning (Vygotsky, 1987).

Vygotsky's early contribution to the inclusion debate was that such physical and mental impairments can, in the social and cultural contexts which have developed in different societies, lead to the development of secondary disabilities which can have negative social and psychological effects, including social isolation, low self-esteem, or forms of social-emotional distress (Gindis, 1999; Johora, 2021; Kozulin et al., 2003). However, it should be noted that secondary disabilities are not the direct result of primary disabilities but, rather, a consequence of mismatch between the individual's primary disability and environmental and social barriers (Vygotsky, 1993). Following Vygotsky (1978, 1993), for special education to be effective, the congruence between the needs of the individuals and an environment designed to enhance their cognitive and social development must be established, thereby activating socio-cultural processes through inclusion initiatives. Vygotsky has offered different perspectives on special education by emphasising inclusivity and special needs through his particular approach to difference, and by linking individual cognitive development with social interactions through socio-cultural theory (Kozulin and Gindis, 2007). This more comprehensive scope of special education provides a framework for evaluating and approaching 2E students.

Vygotsky's (1993) perspective on inclusive education can offer a more effective and supportive approach to the education of children with disabilities in general and 2E students in particular. Vygotsky's (1993) approach suggests that identifying the adverse conditions faced by children with disabilities is inadequate; rather, it is crucial to address and reduce negative environmental and societal circumstances (Bøttcher and Dammeyer, 2012). Adopting this perspective in the case of 2E students, it becomes necessary not only to focus on their weaknesses but to support and enhance their strengths. This can contribute to a more positive experience in the learning process of these students and may imply adopting an educational approach that is more responsive to individual differences by using a variety of strategies and resources by teachers and educators to provide a learning environment appropriate to the child's specific needs (Vik and Somby, 2018). In this regard, Vygotsky's (1993) ideas in special education can offer a more inclusive and supportive educational model that can help children overcome their disabilities and realise their potential by discovering

their strengths. Similarly, this research also endeavours to explore the positive experiences of 2E students and not only the disadvantages that they encounter. Moreover, it is necessary to avoid viewing 2E students through the lens of achievement and marketability, which can result in societal expectations and pressure for conformity and further marginalisation. Instead, society should adapt to support and accommodate their unique needs, addressing the giftedness and disabilities of 2E students and creating more inclusive and flexible educational systems. It is important to provide an environment that recognises and fosters the potential of 2E students and enables them to reach their full potential.

Vygotsky's (1986) insistence that learning is a social process means that language, as a crucial aspect of social interaction, serves as a powerful cognitive tool for both developing cognitive processes and mitigating the impact of environmental adversities. Through communication, individuals within special education can share their thoughts and feelings, and also receive feedback that benefits their cognitive development by introducing novel ideas and perspectives. Special education should be provided through collaborative and interdisciplinary professional teams for both the primary disability (e.g., a physical condition or a learning disability) and the secondary disability that includes social-emotional problems (Barnes and Turner, 2000). Collaboration in special education involves a team of individuals with different areas of expertise, such as parents, teachers, therapists, psychologists, and administrators, working together to improve the performance, education, and participation of students with disabilities in various environments. The goal is to support the child's development and involve their families and typical peers in the process (Hanft and Swinth, 2011).

Vygotsky's (1978) socio-cultural theory is linked to another key concept, which is the zone of proximal development (ZPD); this concept refers to the enhanced performance that learners are sometimes able to exhibit with the assistance of a more knowledgeable person, compared to the performance they are capable of displaying in the absence of such assistance. Over time, the gap between these two levels of performance narrows, providing evidence of the influence of assistance and social interaction on the learner (Kozulin et al., 2003; Vygotsky, 1978). The existence of incongruence between an individual's actual developmental level, or what they can accomplish independently, and their potential developmental level with assistance is a crucial factor in both learning and development (Berk and Winsler, 1995). The

application of Vygotsky's ZPD in the context of 2E may suggest that 2E students who excel in a particular domain but face difficulties in other academic areas may require targeted interventions to bridge their proficiency gaps. In this way, they will be able to develop social relationships, be aware of their competencies and areas of need and have a sense of achievement (King, 2005).

The cultural background and prior social experiences of the supportive individual, as well as their expertise, can have a significant effect on learning in the ZPD (Wertsch, 1985). From this perspective, the ZPD is an important element of the process on shaping of cognitive development through the influence of cultural practices and social background and serves as a guide for monitoring development and outlines a trajectory towards independent learning and growth (Rogoff, 2003). In some cultures, there may be a greater emphasis on cooperative learning and peer to peer interaction, while others prioritise individual achievement (Cole, 1996). This illustrates how significant it is to consider how different cultures approach the process of learning as such cultural differences can have a profound effect on how individuals are supported in their ZPD as they grow and develop (Wertsch, 1985).

In this context, the combination of Vygotsky's (1978) socio-cultural theory and the implications for inclusion from his work on defectology (1993) are significant. Manzoor and Vimarlund (2017) claim that facilitating self-expression and social communication for individuals with special needs, through writing or assistive technology depending on the disability in question, can contribute to positive social relationships and community experiences. This approach provides a basis for inclusivity and ensures that all individuals (with disabilities or otherwise) are socially integrated rather than marginalised or excluded.

What Vygotsky's (1993) work on defectology implies is that the identification of the special educational needs of a learner is crucial in minimising the likelihood of secondary disabilities caused by the mismatch between the individual and societal structures and processes, contributing to the development of cognitive processes, and maximising the individual's sense of well-being in a social and emotional sense. Education programmes provided to the individual should be well-matched to, or congruent with, their specific needs (Smagorinsky, 2012). It can be noted that Vygotsky never labelled children with disabilities as defective or handicapped, and instead argued that these children could achieve similar levels of cognitive ability to their non-disabled peers with appropriate support and nurturing (Kotik-Friedgut and

Friedgut, 2008). When considering a high-potential 2E child with either a primary disability or secondary disabilities caused by negative social circumstances, special education should be provided through an interdisciplinary approach in order to be appropriate and effective (Barnes and Turner, 2000). The involvement of an expert in the relevant field who can support the child's high potential and abilities also promotes a more comprehensive understanding of special education, aiming to address deficiencies or disadvantages but also to support the strengths of the individual.

2.2.5. Models of Disability

The term disability refers to an individual's reduced ability to engage in certain activities (e.g., self-care, mobility), while impairment, which can arise from a variety of physical, cognitive, and emotional factors, is defined as a difference in physical functioning or structure of the body that does not necessarily signify a problem (Mabbett, 2002; World Health Organisation [WHO], 2001). Another term – handicap, describes the impact of the environment on a person with a disability in fulfilling their roles (WHO, 2001); that is, handicap denotes that a person's disability is affected by the environment and how it can hinder their ability to perform their duties. The limitations imposed on individuals by their environment, beyond their own personal condition, also exist within the scope of disability. According to the definitions above, disability is a complicated term that requires the use of separate concepts such as impairment, handicap, limitation in participation and activation to fully comprehend its multidimensional nature (WHO, 2013).

The UK Equality Act (2010) defines disability as an impairment which is considered to have a substantial and enduring adverse effect, whether it is a physical or mental condition that significantly and persistently hinders a person's ability to perform typical daily activities over a prolonged period (Lockwood et al., 2012). However, it is important to note that societal perceptions and understanding of disability can also shape and influence how this definition is interpreted and applied in practice. Barnes (1991), therefore, highlights the idea that social and cultural factors, including attitudes, beliefs, and stereotypes, can contribute to disability discrimination and exclusion, and thus create obstacles for people with disabilities, even if their impairments are not directly constituting a problem. These societal barriers are additional disadvantages for individuals having impairments, as well as medical conditions and institutional restrictions (e.g., in education and employment). According to Barnes (1998),

disability extends beyond the abilities and limitations of disabled people themselves and encompasses relationships between these individuals and their environment, and the actions of the society in which they live. Hence, disability is not merely a personal matter but is also influenced by social norms and the limitation of full participation of disabled individuals.

Oliver (1996) argues that a sense of usefulness is crucial for maximising motivation, particularly for individuals with disabilities or chronic illnesses; however, depending on society's perception of disability, such individuals may struggle to maintain their sense of usefulness, which can result in psychological difficulties. This is another dimension of disability, which suggests that people with disabilities experience pressure to prove their worth. According to Abberley (1987), environmental factors, physical structures, belief systems, perspectives, levels of sensitivity, comprehension and awareness are all vital components in altering perceptions and definitions of disability, and the provision of opportunities to people with disabilities. It is important to note, however, that solutions may not always manifest at the desired level, time and scope, and this perspective explains why and how disability models have arisen and what they provide. Smart (2004) suggests that each disability model is, in essence, an approach that represents society's perceived disability needs and definitions. Thus, models are not neutral as they mirror societies' value judgments, perceptions and assessments regarding the needs and classification of individuals with disabilities and are influential in the formulation and implementation of policy as well as determining which academic disciplines focus on the study of disability. From this perspective, it could be concluded that the perception of disability is subject to variation depending on the societal, regional, cultural, and national contexts and that individuals with disabilities are exposed to diverse approaches throughout history.

Disability models offer conceptual frameworks that serve as a lens for perceiving disability and inform the understanding of individuals with disabilities, rather than simply providing a direct approach to treatment. These models have evolved in different formats throughout history, reflecting societal perceptions and attitudes towards disability (Bax, 1998; Llewellyn and Hogan, 2000). The emergence of a moral model which, historically, can be traced back to the various religious traditions, has had a significant impact on shaping ethical perspectives and values (Pardeck and Murphy, 2012; Shakespeare, 2013). According to this model, disability was considered to be a result of sins committed by individuals with disabilities or by

their parents and, in addition to being regarded as a moral failing or a punishment from God, disability was also perceived as a test of faith (Andrews, 2017; Olkin, 1999; Retief and Letšosa, 2018). The moral model thus contributes to the marginalisation of people with disabilities socially and culturally, stigmatising and excluding them from mainstream society (Henderson and Bryan, 2011). The moral model, which persisted in Western societies until the end of the Middle Ages, also included a belief in the need to modernise the way disability was viewed, despite disability being seen as a punishment or an act of God (Olkin, 1999). With the rise of humanism and the Renaissance, a more secular and scientific understanding of disability was developed, bringing a greater emphasis on reason, knowledge, and individual autonomy (Covey, 1998).

Although the moral model was widely accepted in its time and included religious beliefs, today it is generally understood that this model is flawed and outdated as it reflects a normative and judgemental perspective on diversity (Andrews, 2017). Nevertheless, understandings and perceptions associated with the moral model still persist in societies where religion and tradition dominate, influencing people's attitudes towards disability and disabled individuals in various ways (Anderson, 2013; Dunn, 2015; Karna, 1999). A current and widely accepted belief that advocates for the full participation of people with disabilities in society and aims to remove all social barriers has fostered developments in disability studies and facilitated the inclusion of people with disabilities without prejudice (Barnes and Mercer, 2010; Wendell, 1996). It now appears self-evident that social and cultural changes have an impact on individuals' perceptions of and attitudes towards diversity or disability, which suggests that in the future innovative and diverse perspectives will be developed to promote inclusion and justice for all individuals (Llewellyn and Hogan, 2000). The historical development of attitudes towards disability, which is further discussed below, provides evidence in support of this argument.

Developments in the field of medicine following the Industrial Revolution and two World Wars, and increasing interest in this field, have also led to progress in the way that disability is perceived; the medical model, which is one of the disability models, proposes to help individuals with disabilities integrate into society through treatment rather than viewing disability as a punishment from God as in the moral model (Kaplan, 2002; Olkin, 1999). This way of thinking was supported by the opportunities presented by the era, that is, the medical

model highlights how technology and opportunities can influence people's approaches and perceptions. Following Thomas and Woods (2003) and Carlson (2010), medical practitioners now view disability as a matter that needs to be resolved, and as a tragedy for both the individuals and their families; furthermore, individuals with disabilities, according to this model, are seen as people who require medical intervention or treatment. The medical model can therefore result in individuals developing a perception of themselves as being deficient or experiencing illness (Llewellyn et al., 2008). This view of disability is subject to criticism due to its tendency to concentrate only on the medical aspects of disability, potentially neglecting the social and environmental factors that play a role in the development of disabilities (Andrews, 2017; Longmore, 1987).

The understanding that the medical model views individuals with disabilities as problematic and in need of treatment leads to stigmatisation and prejudice within society, and this societal disadvantage has emerged as a result of medical professionals emphasising only individuals' disabilities instead of their abilities (Andrews, 2017; Hughes and Paterson, 1997). Although the fact that inclusion has gained prominence during the medical model period may initially appear advantageous (Kaplan, 2002), the understanding that the way to integrate people with additional support into society is solely through their treatment is considered as a limitation of this model (Llewellyn et al., 2008). In contrast to the moral model, the medical model incorporates an approach that emphasises the diagnosis and treatment of disability; however, this approach can be problematic when disabled individuals are solely viewed as patients who need to be cured or fixed, rather than recognising them as full and equal members of society (Andrews, 2017). This approach runs counter to contemporary understandings of disability as a social construct, and the goal of inclusion, which emphasises the importance of creating accessible and inclusive environments that accommodate and celebrate the diversity of all individuals, including those with disabilities (Oliver, 1996). Even though one of the goals may be inclusion in the medical model, the way in which disability and diversity - which is a term embracing a wide range of differences in ethnicity, gender, ability, and other characteristics, are perceived matters; that is, approaching disability from a medical perspective while simultaneously recognising multiple factors (e.g., social and environmental) is necessary in order to create a more inclusive environment. In this context, a model that minimises stigmatisation in the society and promotes equality for all is needed, and this need has been

a precursor to subsequent developments in disability rights, diversity, and inclusion (Andrews, 2017).

Although understandings associated with the medical model prevailed until the 1960s, the limitations of this model continue to be debated and scrutinised, and it remains a subject of ongoing discussion. As a result, the global disability rights movement that arose in the 1960s and 1970s, including in the UK, involved a search for alternative models and questioning of the medical model (D'Alessio, 2011). This period was characterised by a belief that disability should be considered as a matter of human rights and that efforts were required to address marginalisation and discrimination and promote inclusion for individuals with disabilities. The prevailing perception of disability as an individual tragedy had to be replaced with a more humane and egalitarian perspective (Oliver, 2018). The organisational disability rights movement subsequently gained momentum in the 1970s with the establishment of groups such as the Union of Physically Impaired against Segregation (UPIAS) in the UK, which aimed to give voice to people with disabilities, expand their rights and prevent exclusion, with the contribution of a group of disabled activists who united various groups and campaigns in the fight for disability rights (Barnes, 2003; Oliver, 1990; Shakespeare, 2006). In addition, the enactment of the Disability Discrimination Act 1995, which has been replaced by the Equality Act 2010 in the UK, criminalised discrimination against disabled individuals (Fell and Dyban, 2017). This was a significant milestone in the disability rights movement in the United Kingdom as it helped raise awareness of the issues faced by disabled individuals and set the stage for further progress (Bell and Heitmuller, 2009). These disability movements highlighted that disability is not simply an individual tragedy, but a situation that concerns the whole society, and that policies and laws are needed to eliminate the barriers that people with disabilities face in accessing education, employment, and other areas of life, and to protect their rights (Campbell and Oliver, 1996; Oliver, 2018).

While these developments were taking place, Oliver (1981, p.28), a disabled activist and lecturer, coined the term 'social model', arguing that the social dimensions of disability should also be focused on and that the physical and social environment creates a pressure and limitation on disabled people (Retief and Letšosa, 2018). The historical background of the disability movement in the UK also indicates why the social model is needed and what remains to be done to achieve inclusion. Oliver (2013) claims that the idea behind the social model of

disability originated from the Fundamental Principles of Disability document (UPIAS, 1976), which was first published in the mid-1970s and asserted that individuals with disabilities are not disabled due to their impairments but, rather, by the barriers and constraints imposed upon them by societal structures and systems. Indeed, it posited that it is the obstacles such individuals encounter in society that are disabling, leading to marginalisation and exclusion. According to Oliver (1990), disability is a phenomenon which is socially constructed, which is why the medical model of disability that concentrates on individual impairments cannot adequately address the social and structural barriers faced by disabled people. That is, the emergence of the social model can be attributed to the recognition of the inadequacies and limitations of the medical model, prompting a need for alternative approaches to address the complexities of disability, including societal and environmental factors. Consequently, the social model of disability advocates for a fundamental change in perspective, towards a more comprehensively inclusive and accessible social environment that acknowledges and caters to the requirements of all individuals, irrespective of their impairments (Altman, 2001; Andrews, 2017).

The social model targets societal and environmental obstacles that prevent people with disabilities from fully participating in society by promoting greater inclusivity and accessibility; for instance, social reactions to impairments can also be considered a significant barrier that contributes to disability (O'Connell, Finnerty and Egan, 2008). The impact of social attitudes and structures on the experiences of individuals with impairments is a primary concern in the social model, as opposed to the medical model which places more emphasis on the individual's impairment itself, and Purtell (2013, pp.26) argues that "disabled individuals illustrate how social attitudes and structures disable and oppress individuals and that they are, indeed, disabled by society". Hence, the social model can be characterised as a framework that entails both individual and collective responsibility and contributes to the development of social policies such as the Disability Act 1995 (Bell and Heitmuller, 2009) mentioned above that concern the entire community in enhancing social equity and inclusivity. This model underscores the significance of collective efforts in addressing social difficulties and promoting social well-being (Oliver, 2004).

In relation to 2E individuals, the social model of disability can aid understanding of the ways in which societal attitudes and structures can impact their experience due to the

exceptionalities they possess. The social model of disability highlights that the way society views and treats individuals with disabilities can lead to a range of negative outcomes, including discrimination, exclusion, and reduced opportunities for participation (Barnes, 1991; Oliver, 2018). For 2E children, this implies that their giftedness may be disregarded or undervalued due to their disability, or that their disability is overlooked or stigmatised due to their giftedness (Reis et., 2014). Understanding the social model of disability can therefore be helpful in supporting 2E children by focusing on creating an inclusive and accommodating environment that recognises and values their unique strengths and difficulties, rather than seeing them only through the lens of their disability or their giftedness. The relevance of the social model in the context of 2E students includes providing appropriate support and accommodations to help them reach their full potential and promoting positive attitudes and understanding towards both their giftedness and their disability, referring to environmental regulation and social awareness which are two issues that the social model highlights.

The incorporation of the interactionist model into the discussion further emphasises the dynamic interplay between individual characteristics and societal factors in the experiences of 2E individuals (Nathan and Brown, 2018). The interactionist model underscores that disabilities are not solely determined by inherent impairments or societal barriers but result from the complex interaction between the individual's unique qualities and the surrounding environment, which means that the limitations imposed by disabilities are triggered by a combination of these conditions rather than segregating them into biological and environmental categories (Nathan and Brown, 2018). In the context of 2E children, this means recognising the need to consider how both their giftedness and disability contribute to their overall experience and how the recognition or non-recognition of 2E mutually influences societal attitudes and structures. This approach encourages a holistic perspective that appreciates the complex interplay between biological and environmental dimensions, recognising the social dimension of disability as well.

The different disability models can be viewed through the lens of Vygotsky's (1993) concept of congruence and incongruence in terms of how they address the relationship between the individual and their environment which is shaped by cultural tools (e.g., societal norms). The incongruence between an individual's biological structure and environmental conditions can impact psychological development and, in this case, it may inhibit individuals' development

of social skills, full participation in society and learning of the tools of social communication in a cultural sense (Bøttcher and Dammeyer, 2012; Vygotsky, 1978). Given that social development is considered a fundamental component of general development, it follows that individuals with disabilities who have primary biological defects might experience secondary impairments that affect their overall developmental trajectory (Bøttcher and Dammeyer, 2012; Vygotsky, 1993). This suggests that the social model should prioritise congruence by acknowledging the influence of societal impediments in causing disabilities and that social barriers need to be minimised and shaped in favour of congruence in order to create a more inclusive and accessible environment for all individuals, regardless of their abilities and disabilities (Charlton, 2000). The social model, thus, allows people with disabilities to reach their full potential and fully participate in society by promoting congruence between the individual and the environment (Shakespeare and Watson, 2001); whereas the medical model of disability can lead to an incongruent relationship between individuals with disabilities and their surroundings, as it focuses on fixing or curing the individual's impairments rather than addressing the social and cultural barriers that limit full inclusion and participation in society (Oliver, 2004). Incongruence in the medical model can also be attributed to the perception that disabilities stem entirely from the impairments or conditions of disabled individuals (Shakespeare, 2013). In this sense, Vygotsky's incongruence model was developed alongside early versions of the medical model, but he also recognised the importance of environment and social interaction. Thus, from a Vygotskian perspective, interactive approaches and the understanding of the social model emphasise the development of the individual under the influence of environmental and social conditions.

The common purpose of disability models is to acknowledge and comprehend disability as a complex phenomenon which affects individuals' lives in diverse ways; these models, encompassing society's perspectives on disability, demonstrate a historical process in which developments have been influenced by the social, cultural, or technological factors. In this sense, embracing and creating new disability models will also be crucial in the future to achieve a more equitable and accessible world. It is also significant to note that the terms incongruence and congruence extend beyond the models of disability discussed above, encompassing the identification and provision of support for 2E students. To address incongruence and congruence in the context of 2E education, it may be necessary to examine

how societal and cultural norms and expectations affect the identification of 2E students and to explore alternative approaches that prioritise congruence between exceptional characteristics, including abilities and disabilities, and the educational environment. Hence, the understanding brought about by the social model can help to better understand disabled individuals, including those with 2E, to create a more inclusive environment, and to reduce societal barriers (Barnes, 1991; Charlton, 2000). Incongruence can have a profound impact on the lives of 2E students when their exceptional dis/abilities are not recognised or supported by educational environments, or when their needs are not addressed to enable them to fully participate in academic and social life (Bøttcher and Dammeyer, 2012).

2.3. CHAPTER SUMMARY

This chapter embarked on a comprehensive exploration of the historical underpinnings of SEND, including the evolution of 'Giftedness' and 2E. Additionally, it explored the understanding of diversity and inclusion through concepts of difference, phenomenological perspectives inspired by Levinas (1981), theories and conceptualisation of diversity that challenge normative boundaries in philosophies of difference, Vygotsky's (1993) concept of incongruence, and diverse models of disability. The theoretical framework underlines the critical importance of embracing individual differences and other marginalised groups such as 2E. This multi-faceted journey sought to unveil the interplay of these historical trajectories, offering insights with profound implications for policy and practice at both national (e.g., the Education Act of 1981 and Green Paper of 1997) and international level (e.g., Salamanca Declaration) in the realm of SEND.

The historical trajectory has shown that the focus on identifying high IQ levels neglects potential learning difficulties or other exceptionalities among gifted students and limits the understanding of the diverse needs within this group. In the UK, terms like "dual differentiation" and "dual exceptionality" were introduced to describe individuals with exceptional strengths and challenges (Baum et al., 2001; Wormald and Vialle, 2011). It was concluded that societal perceptions can shape the understanding of disability, and social and cultural factors may contribute to marginalisation and exclusion. The social model, one of the disability models, contributed to understanding how societal attitudes could impact the

experiences of 2E students due to their exceptionalities. In this sense, an inclusive environment that recognises and values the unique strengths and difficulties of 2E children was suggested.

CHAPTER 3: LITERATURE REVIEW

3.1. UNDERSTANDING OF TWICE-EXCEPTIONALITY

This literature review addresses different aspects of 2E students to provide a better understanding of their characteristics. The term 2E will be described and who can be called a 2E student will be discussed. Moreover, disabilities co-existing with giftedness, the general characteristics of this student group, and the unique qualities and potential of 2E students will be introduced. In addition, examples of 2E students and conditions such as savantism (Treffert, 2014) and Asperger's Syndrome (Burger-Veltmeijer et al., 2015) that can be seen among these students and research on 2E students will be examined. The prevalence of 2E students, their special needs in the learning process and recommendations for supporting them will also be explored. The information presented under the sub-headings below will offer valuable insights into the multifaceted nature of 2E students, addressing their exceptional profiles and potentials, and the challenges they face.

3.1.1. Definitions

Giftedness is a subjective matter where criteria vary from culture to culture and in time depending on social norms, values, and expectations; there is no consensus on a universal definition although the focus is on certain skills in broader areas such as creativity and analytical thinking (Kaufman and Sternberg, 2008). This definitional diversity stems from the fact that gifted individuals display their abilities in a multifaceted and complex manner (Robinson and Olszewski-Kubilius, 1996) and efforts to move away from generalised IQ tests and understand giftedness from broader psychological or educational perspectives (Robinson and Clinkenbeard, 1998). Theories, for example, Renzulli's (2005) three-ring model of giftedness and Gagne's (2009) differentiated model of giftedness and talent discussed in chapter 2 also play an important role in the definition of giftedness by providing guidance on individual differences, the development of abilities, and identifying educational strategies (Mönks and Katzko, 2005).

Although giftedness and talent are used interchangeably, Gagné (1991) defines giftedness as an individual's above-average proficiency in a broad area such as intellectual or creative abilities, while talent is defined as an above-average performance in a more specific area (e.g.,

mathematics and music). Based on these definitions, it means that a talented individual has the potential to achieve superior success in a more systematic and planned manner, towards a specific goal, and in a more specific subject. Ross (1993) expands the concept of giftedness and defines gifted individuals as individuals who display superior potential in intellectual, creative, and artistic fields, have extraordinary leadership capacity, and excel in certain academic fields.

The concept of ability has a wide spectrum of meanings and generally refers to the capacity to achieve a task by encompassing the competence to learn and practice (Mönks and Katzko, 2005). It therefore differs from talent which refers to more specific subject areas (Gagné, 1991). Ability also encompasses a potential that can be developed but requires organisation and regulation in order to serve cognitive and social domains effectively, or conversely, it can regress, or change in complex ways (Dai and Sternberg, 2004). The concepts of giftedness and high ability are not synonymous; because giftedness goes beyond high ability, involving extraordinary achievement or competence or performance in one or more areas (Mönks and Katzko, 2005). In addition, Gottlieb (2007) argues that human potential is shaped by genetic, neural, and environmental factors, and accordingly, perception of human potential also changes. This interaction and change occur in a multifaceted and complex manner (Dai, 2020).

3.1.2. Identification of Twice-Exceptionality

Uncertainties and misconceptions about what disability and ability mean are also reflected in twice-exceptional status (Pereira et al., 2015). This, therefore, has made it difficult to provide a clear definition of twice-exceptionality and has led to the emergence of more than one definition (Reis et al., 2014).

Twice-exceptionality is a term used for individuals having both gifts and a disability, and not possessing the stereotypical characteristics of either disabled or gifted ones (Baum and Owen, 2004). In another definition proposed by Reis et al. (2014) and the National Commission on 2E Students (NCTS, 2020), twice-exceptionality refers to students who excel and are creative in one or more areas, with one or more disabilities. According to Foley Nicpon et al. (2011) and Ronksley-Pavia et al. (2019), 2E students represent a unique population having specific needs. Similarly, Trail (2008) defines twice-exceptionality as a situation in which both the

ability and disability interact, leading to new symptomatic features derived from this comorbidity of exceptionalities.

Twice-exceptionality is a special category in which giftedness is comorbid with one or more disabilities such as autism, ADHD, learning disability, emotional and behavioural disorders, physical disorders and speech disorders (Reis et al., 2014). However, either the ability or perceived deficits do not have to be always explicitly demonstrable. In this case, both gift and disability should be assessed comprehensively within themselves to explore dual or multiple exceptionalities in a high potential student (NCTS, 2020).

3.1.3. Co-existing Disabilities to Giftedness

Twice-exceptionality includes different disorders as well as high ability such as learning disability, ADHD, autism, social and emotional disorder, and language and speech disorders (Neihart, 2008). These disorders are the conditions that form the basis of classification (Reis et al., 2014).

Prior to classification, it is necessary to examine the diagnosis process. When talent prevails over the disorders, 2E students may be considered as able only; or conversely, when the disability obscures giftedness, it may cause them to be seen as an average student with a learning disability or autism. In the other scenario, gift and disability, two paradoxical combinations, balance each other, and this might cause 2E students to be seen as of average intelligence (Amran and Majid, 2019). This complicated situation, therefore, means they are misdiagnosed or underrepresented. The 2E children whose high potential and disability are clearly recognised face specific issues caused by both exceptionalities (Sansom, 2015). The fact that 2E children have a combination of different talents and disorders has made classification necessary. Accordingly, this classification is as follows:

2E with ADHD: ADHD is one of the prevalent conditions observed during childhood, and its population and intervention approaches are influenced by the diagnostic criteria applied and the potential masking of exceptionalities (Cormier, 2008; Mullet and Rinn, 2015). While it is acknowledged that gifted students can receive an ADHD diagnosis, it is frequently observed that the gifted students, who exhibit symptoms resembling ADHD are, in fact, displaying characteristics inherent to their giftedness, leading to the potential misdiagnosis of ADHD (Hartnett et al., 2004). In the context of misdiagnosis, Rinn and Reynolds (2012) have also

found similar conclusions that gifted students may be prone to being wrongly diagnosed with ADHD due to unawareness regarding their expressions such as excessive excitability and the misinterpretation of these behaviours as indicators of ADHD. However, ADHD can simultaneously coexist with giftedness in students, allowing for a dual diagnosis-twice exceptionality- to be identified (Mullet and Rinn, 2015). Highly able children with ADHD can experience difficulty in focusing on work, moving in line with instructions, completing a task, organising and planning as in non-gifted children (Kerr and Neuman, 2012; Moon, 2002).

The strengths and challenges of students with dual diagnoses can interact in a complex way, where one can conceal the other. For example, high potential can mask ADHD, and in this case, the student cannot benefit from special education services due to unawareness of masking (Mullet and Rinn, 2015). In addition, 2E students can experience lower self-esteem compared to their gifted peers who do not have ADHD (Foley-Nicpon, et al., 2012). When compared to their gifted peers without ADHD, 2E students can have a higher level of anxiety and display more disruptive behaviours (Antshel et al., 2008). Gifted students with ADHD may have difficulty performing executive functions such as auditory and verbal memory, which illustrates how ADHD can negatively impact giftedness (Brown, Reichel and Quinlan, 2009).

2E with Autism and Asperger Syndrome: Asperger Syndrome, which is now accepted as an obsolete sub-category of autism spectrum disorder (ASD) and considered to be genetic, is recognised as an exceptionality for high potential children (Lovecky, 2004). First described by Hans Asperger in 1944, Asperger's Syndrome is associated with some typical disabilities such as social isolation, indifference to the environment and repetitive behaviours (Reis et al., 2014). However, socially disabled individuals with Asperger's Syndrome can display superior performance verbally (e.g., pedantic speech) and cognitively (e.g., having advanced knowledge) (Amiri, 2020; Reis et al., 2014).

Fletcher et al. (2019) point out that individuals with Asperger's Syndrome can have average and higher intelligence, depending on their cognitive development. Based on this literature, it is easy to rationalise why these students, who are among those with Asperger's Syndrome and have high intelligence, and experience difficulties caused by autism, are being assessed in the scope of the term twice-exceptionality (Burger-Veltmeijer et al., 2015). The 2E children in this group face similar challenges caused by autism (e.g., social interaction) as other average children (Misset et al., 2016). For instance, gifted students with autism, despite having a rich

vocabulary due to their exceptional abilities, may experience limitations in communication, difficulty making eye contact and problems in social relationships (Neihart and Poon, 2009).

The mask effect also applies to gifted students with autism, whereby autism symptoms may mask abilities, while abilities may overshadow ASD characteristics. In each case, it can lead to giftedness being overlooked and autism being misdiagnosed, resulting in preventing students from receiving effective support (Assouline et al., 2008). Neihart (2000) conducted some comparisons between gifted with Asperger's and ordinary gifted students.

Gifted children typically possess a fluent style of speech, while gifted children with Asperger's Syndrome draw attention with their pedantic and uninterrupted manner of speaking. In addition, those with Asperger's Syndrome often display resistance to changes, whereas this situation can be reversed in gifted students. Ordinary gifted children are aware of being different and usually know how others perceive them. However, gifted children with Asperger's Syndrome generally have low awareness of how they are perceived by others. Ordinary gifted students can have a developed sense of humour, while this may be limited to wordplay in those with Asperger's Syndrome. Motor skill deficiencies are not common among typically gifted children, whereas a significant proportion of gifted children with Asperger's Syndrome may experience motor skill deficits (Neihart, 2000). By looking at these comparisons made by Neihart (2000), it could be inferred that these comparisons highlight important distinctions between gifted children with and without Asperger's Syndrome, indicating how Asperger's can significantly impact communication styles, social awareness, humour comprehension, and motor skills in gifted individuals when it coexists with giftedness.

In their study, Rubenstein et al. (2015) highlight that parents are aware that their gifted children with autism have both difficulties with social interactions and outstanding academic achievements; however, they also acknowledge the mismatch between the needs of their children and educational settings. Rubenstein et al. (2015) argue that to mitigate potential challenges that may arise from this incompatibility, parents should take an active role in accessing appropriate educational opportunities for their children, while teachers should provide flexible environments for these students. Thus, as with all children with special needs, the educational environments of gifted students with autism should be tailored according to the characteristics of these students.

2E with Learning Disabilities: Students with specific learning difficulties may possess average and above-average intelligence. Therefore, the fact that individuals with learning disabilities can exhibit special talents in one or multiple areas such as art or sports makes them 2E (Neihart, 2008; Nielsen, 2002). These individuals may have difficulties in one or more of the specific subjects such as reading, writing and maths (Boothe, 2010). While discussing the general characteristics of 2E students is challenging due to the unique personal traits of each individual, there might be some common patterns among them (Buică-Belciu and Popovici, 2014; Foley-Nicpon, 2013). Highly gifted individuals with learning disabilities can be seen as individuals who are productive, imaginative, have differentiated interests, and can show superior performance, excelling in areas such as science and geometry despite having learning difficulties (Stewart, 2003). Some 2E individuals may not be recognised since they exhibit both learning difficulties and exceptional talents. While there are cases where learning difficulties may overshadow their special abilities, it is possible that in some cases, special abilities can prevail over learning difficulties (Trail, 2011).

Gifted learners with learning disabilities are the largest sub-group among the 2E students (National Education Association, 2006; Neihart, 2008). Challenges faced might vary depending on a specific learning disability (e.g., dyslexia, dyscalculia) and able children (Long et al., 2010; Nielsen, 2002). Although talented individuals in this group face difficulties caused by learning disabilities (low academic performance, challenges in reading and writing), due to their intelligence they risk being undiagnosed, and thus they are considered as an average student (Boothe, 2010).

There are records indicating that numerous historically famous individuals such as Albert Einstein, Thomas Edison and Winston Churchill may have also experienced learning difficulties (Amiri, 2020; Little, 2001; Prater, 2003; Prater, Dyches and Johnstun, 2006). As a celebrated scientific figure, Albert Einstein, globally recognised for his genius and groundbreaking contributions to physics, reportedly experienced speech delays as a child, had reading problems and encountered difficulties in learning and adapting to the school system (Little, 2001; National Education Association, 2006). The fact that Einstein had difficulty adapting to the typical education system or had difficulties in certain areas could support the possibility that he may have had learning difficulties (Amiri, 2020; Little, 2001; Prater, 2003). Thomas Edison was labelled as "stupid" by his teachers, while Winston Churchill experienced academic

setbacks when he failed the sixth grade (Little, 2001). Focusing primarily on the talent aspect of these globally recognised individuals and overlooking other conditions (disabilities, challenges etc.) constitutes a contradiction to the deconstructionist theory of Derrida (1976). That is, emphasising ability and ignoring other aspects may also be a result of social norms (Foucault, 1977). In this context, it is essential to consider not only the high potential of gifted students but also their special educational needs. This approach will contribute to enhancing people's perceptions and evaluations. Considering the paradoxical features of 2E individuals, from the rhizomatic perspective of Deleuze and Guattari (1987), recognising that needs and abilities do not hold hierarchical superiority over each other and instead addressing all exceptionalities equally is crucial for students to reach their full potential. When considering the success stories and societal contributions of these individuals, it becomes evident that learning difficulties did not hinder their brilliance. Nevertheless, it is essential to acknowledge the existence of 2E students who may have experienced academic failures due to issues within the education system and lack of awareness. As a result, their strengths could have been overlooked and unsupported, leaving them to cope with their weaknesses independently (Little, 2001).

2E with Social-Emotional and Behavioural Disabilities: A review of the literature shows that, although able children with social-emotional disabilities are sensitive, they display persistent tendencies and refuse intervention efforts provided to meet their academic and social-emotional needs (Ronksley-Pavia, 2015). Neihart et al. (2002) point out in their research that social and emotional problems affect 2E students as much as they affect their non-gifted peers. While social-emotional disorders in 2E are recognised as a type of twice-exceptionality, studies examining social-emotional disorders of 2E children are still quite limited and much more research is needed in relation to this subject (Missett et al., 2016; Neihart, 2008). That is, despite the prevalence of social, emotional, and behavioural disorders in gifted students (Younis, 2020), it is not researched as much as learning disability or ADHD in the gifted learners. This under-researched area concerning 2E students is considered as a noteworthy issue (Missett et al., 2016).

Difficulties such as depression and anxiety faced by 2E students can be evaluated under the type of social and emotional challenges that they may have (Missett et al., 2016; Montgomery, 2013). Learners with 2E can have social and emotional difficulties and are not

able to express their feelings, and this may lead them to show disruptive behaviours in educational settings. However, their potential, in this scenario, may go unnoticed and unsupported due to teachers' excessive emphasis placed on their behaviours and expressions (Amiri, 2020). It is important to recognise the underlying causes of students' observable behaviours, such as disruption and aggression, and to provide guidance to students (Amiri, 2020; Younis, 2020). However, some students, instead of visibly expressing their emotions through disruptive behaviour, may be more introverted and experience anxiety and depression, which may make it more difficult to recognise their needs (Younis, 2020). In addition, some 2E students may exhibit perfectionist behaviour in their assignments, constantly criticising themselves and feeling inadequate, which can lead to social and emotional struggles (Amiri, 2020; McCallum et al., 2013; Montgomery, 2015; Nicpon and Assouline, 2015). However, despite these challenges, 2E students can excel and outperform their peers in academic areas or in areas such as creativity and critical thinking (Amend, 2018; Ronksley-Pavia, 2015).

2E with Physical and Sensory Disabilities: A physical disability is referred to as the condition where an individual loses their physical abilities due to various factors and disruptions in their bone, nerve, and muscle systems. This condition can limit individuals' physical functions or make their daily life activities challenging (Kirk, Gallagher, and Anastasiow, 2000). Intelligence and physical or sensory disability should be evaluated independently (Willard-Holt, 1994). While individuals with sensory impairments including blindness and deafness can also have high potential, they need special education addressing both their disabilities and their giftedness (Gallagher, 2006). Programmes, in this regard, provided for talented students with physical/sensory disorders should be designed in such a way that students can be aware of their abilities and cope with the difficulties caused by the disorder (Amiri, 2020).

Exceptionally talented children who face physical or sensory disabilities (e.g., hearing, or visual impairments) are one of the most underrepresented groups in special education (Little, 2001). Identifying the gifted pupils among those with physical and sensory conditions might be challenging. This is due to the fact that any existing standardised tests and observation-based criteria may prove inadequate if considered as the sole method of identification (Willard-Holt, 1999). Therefore, the removal of barriers from the identification process and modification of the assessment criteria are two crucial steps in correctly identifying gifted

pupils with physical and sensory impairments (Little, 2001). Children with hearing difficulties, for instance, cannot listen to spoken instructions and might not have the vocabulary necessary to convey their thinking effectively (Willard-Holt, 1999). When this example is considered within the scope of disability models, it becomes evident that the importance of providing appropriate support to help individuals, including 2E students, to mitigate the impact of the disabilities they have and reach their potential is emphasised. In this regard, the social model suggests that environmental conditions should be adjusted according to the circumstances of the learners, and social awareness should be promoted to develop an understanding that acknowledges individuals' disabilities and exceptional abilities (Oliver, 2018). Therefore, it is of great importance to assist individuals in increasing their self-awareness and encourage the society to develop a more inclusive perspective, being sensitive to the possibility that 2E students' disabilities might be overlooked due to their exceptional talents, or their disabilities might be overshadowed by their exceptional abilities (Reis et al., 2014). Hence, when 2E is assessed in the context of a social model, it suggests creating an inclusive environment that supports their differences and fosters social acceptance and inclusion, rather than approaching twice exceptionality solely as a combination of disabilities and abilities. There are examples of well-known people who are gifted intellectually but also have physical impairments. In this regard, Stephen Hawking, a globally known English physicist who made significant contributions to the field and won the Nobel Prize, can be shown as an example of a famous gifted individual having physical disorders (Gallagher, 2006, cited in Alshareef, 2019; Amiri, 2020).

As noted above, conditions such as ADHD, autism, learning difficulties, social/emotional and behavioural difficulties, and physical and sensory disabilities may co-exist with giftedness. In these students, abilities and difficulties may mask each other, which can complicate the diagnostic process (Reis et al., 2014). Besides, the investigation of underlying reasons for the students' disruptive behaviours is also significant, and whether these reasons stem from unmet needs or emotional challenges among students should be identified (Younis, 2020). Hence, rather than solely focusing on their behaviours, adopting an approach that addresses their needs is essential (Amiri, 2020).

Within the scope of the rhizomatic approach (Deleuze and Guattari, 1987), both abilities and disabilities of 2E individuals are considered as independent from each other, and a

perspective in which there is no superiority between the exceptionalities is adopted. In this context, the abilities that 2E students have do not override their disabilities, nor do the disabilities diminish their value. When 2E famous people are considered in the context of Foucault's (1977) theory of power relations, which explains the influence of power on social relations and the perception of society, one of the reasons why the individuals are predominantly recognised for their abilities could be the encouragement of talent-focused thinking by social norms. By understanding that abilities and disabilities coexist and complement each other, the potential and needs of these individuals can be better understood and appropriate support can be provided. In addition, given individual differences and the types of 2E above, it becomes challenging to generalise specific characteristics applicable to all 2E students.

3.1.4. Characteristics of 2E Learners

Highly able and 2E students have both high potential or talents and disabilities simultaneously. Accordingly, 2E students experience difficulty in some areas such as writing, reading, and attention (Baum, et al., 2017). However, they can perform outstandingly in-class activities that involve high-order thinking or problem-solving; such activities permit these students to excel and demonstrate their talents (Baum and Owen, 1988).

The disabilities of high potential 2E students might mask their talents (Reis, et al., 1997) and, conversely, being highly able can obscure these disabilities. This opacity might lead to misdiagnosis of 2E students or deprive them of a special educational needs diagnosis where they are not identified as highly able children with difficulties (Assouline, et al., 2006). Additionally, various problems that may arise such as social and emotional difficulties are seen in 2E students as a result of their not being diagnosed and not receiving SEND (special educational needs and disabilities) provisions in accordance with their needs (Gelbar et al., 2015; White et al., 2011).

A study conducted by Foley-Nicpon et al. (2012) indicates that highly able children with ADHD, which is a possible twice exceptional condition, have lower self-esteem and less social interaction in comparison with other talented students not having ADHD. From this perspective, it is concluded that twice exceptional circumstances may cause a higher level of social and/or emotional difficulties in high potential students (Brody and Mills, 1997; Moon

and Dillon, 1995 cited in King, 2005; Stormont, Stebbins and Holliday, 2001; Vespi and Yewchuk, 1992).

While 2E students may share common characteristics, their individual differences should not be overlooked; as this group of individuals exhibits considerable diversity in terms of learning styles, areas of interest, cognitive capacities, emotional needs etc. (Foley-Nicpon, 2013). Furthermore, such standardisation and generalisation of characteristics of students with SEND, including 2E students, can pose challenges in promoting inclusion within educational and social settings (McLeskey and Waldron, 2006). From this perspective, Foucault's (1977) theory of power describes how power, by dictating standards in both society and education, adversely influences people's perceptions of diversity. When diversity is considered in the context of education, differentiated instructions addressing the individual differences of students can ensure that students develop a sense of belonging (Mastropieri and Scruggs, 2017). Accordingly, the concept of diversity holds that it is critical to identify and support the unique individual exceptionalities of 2E students in a way that does not allow stigmatisation of them (Lloyd, 2017). That is, such an identification should not be seen as an attempt to other them (Levinas, 1981), but to ensure that their needs are specifically met. Thus, diversity offers an alternative strategy for inclusive education in this regard, emphasising that 2E students should be handled with consideration for their individual strengths and special needs (Tomlinson, 2014). The diversity-oriented approach promotes greater inclusion in the educational environment by understanding and recognising the different characteristics of all learners, not only 2E learners (Oswald and Coutinho, 2015).

Those with savant syndrome, who perform highly in an area, are mostly considered as autistic savants and a large population of savant individuals possess social and communicative disorders caused by autism (APA, 1994; Hermelin, 2002). However, all savants are not diagnosed with autism so savantism might also be associated with other disorders of the central nervous system (Treffert, 2014). This implies that savants are a unique group that has its own characteristics and that the disorders they have are not related to autism only but also, for example, to intellectual disability (Saloviita et al., 2000). As regards to intelligence, some 'prodigy' or 'genius' savants might have an IQ of 125 or higher, while many of them are shown in the IQ range from 50 to 70 as IQ measurement is based on verbal skills which they

lack (Treffert, 2014). Accordingly, the necessity to use different forms that address those with special needs in measuring intelligence may be another area of investigation.

Talents associated with savantism show themselves more commonly in the areas of music, visual arts, calculation (e.g., calendar calculation), arithmetic, mechanic and spatial awareness (Miller, 2005; Treffert, 2009). In addition, memorisation of license plate numbers, map routes, events in history, and details such as schedules in public transport vehicles is an outstanding splinter skill among savants. Although many savants fail in IQ tests, they perform extraordinarily in their 'islands of genius' as mentioned above (Treffert, 2014). As 2E is a term used to describe individuals with high intelligence who also require special education (Baum and Owen, 2004), the fact that savants with the low IQ excel in the certain areas above could be distinguished from the paradox of giftedness and special education in 2E.

3.1.5. Studies of 2E children

In this section, the studies primarily revolve around the exploration of the scope and characteristics of 2E, the education of 2E children, and teacher awareness. Additionally, the focus in the studies is on the identification of 2E students, determining their social and emotional behaviours, and investigating the reasons behind these behaviours. These studies highlight the necessity of appropriate approaches for understanding and supporting the potential of 2E students.

According to recent studies (e.g., Beckmann and Minnaert, 2018), the reason why 2E children perform less well in school activities compared to others, despite being more talented, is not only due to their disabilities in some academic areas but also due to feelings of loneliness and isolation from their peers. This may also lead to a lower quality of social life and feelings of frustration or tendencies towards aggression (Beckley, 1998; Yssel et al., 2010).

Previous studies mostly report that learning disabilities can be seen as a twice exceptional state only in able children, while recent research has shown that other conditions excluding learning difficulties, for example, ADHD, autism spectrum disorder (ASD) and physical or social or emotional disorders such as depression, loneliness, anxiety and poor social skills, might also be co-morbid conditions to being talented (Anderson et al., 2018; Renzulli and Gelbar, 2020).

In Wells' (2018) study, the experience of parental stress among parents of 2E students was investigated, and it was found that parents of 2E students often experience high levels of parental stress. Therefore, this study highlights the importance of awareness not only towards 2E students but also towards their parents, in order to better understand parents and identify their needs. The study also addresses that the efforts made for supporting families will indirectly have a positive impact on the experiences of 2E students as well.

Renzulli and Gelbar's (2020) study explores the roles of school counsellors in identifying 2E students, developing strategies to address the challenges they face, and determining which approaches should be adopted to support 2E students. Additionally, the study highlights the importance of adopting appropriate approaches to support 2E students effectively. In the study, a strength-based approach is suggested as an approach that aims to identify and nurture the strengths of 2E, helping them to realise their potential and allowing them to discover and develop their abilities.

Younis' (2020) study aims to determine how 2E is defined and supported in private schools in Dubai. Therefore, this research serves as a study that aims to uncover the awareness and perceptions of policymakers and educators regarding twice-exceptionality. The findings indicate that more awareness is needed among educators and policymakers.

A recent study by Dimitriadis et al. (2021) on teachers' awareness of 2E students of mathematics can be shown as an example among studies in England. According to this study, 2E mathematics students are often misdiagnosed or their abilities go unnoticed, due to teachers' lack of awareness, and as a result, these students cannot realise their potential and do not receive adequate support. In addition, the quality of teachers' awareness training for 2E students should also be questioned. Therefore, this study can be regarded as an important contribution to understanding the significance of awareness regarding 2E students.

In their studies, Demir and Done (2022) argue that the understanding of 2E needs to be changed to consider individual differences and prioritise needs. They criticise an approach that encourages the assessment of 2E students on the basis of measured intelligence and the commercialisation of support and services for this group. According to them, this approach is rooted in a neoliberal structure that aims to gain an advantage in a competitive system. They emphasise that SENCOs in England's schools have a duty to take measures when faced with

problems such as the stigmatisation of children with SEN and advocate that talented students should receive education in a more inclusive environment rather than a discriminatory and hierarchical system. Therefore, it is the responsibility of SENCOs to create a conducive atmosphere for inclusive education for these students.

When evaluating the studies on 2E, it is evident that 2E is a subject covered both in the UK and in an international context. The studies above generally suggest the need to increase awareness about 2E. In fact, the lack of awareness regarding 2E hinders students from realising their full potential and receiving adequate support. It could also be inferred that the studies related to 2E mostly focus on the identification of these students, determination of their social and emotional characteristics by regarding common aspects, and investigation of the underlying reasons behind their behaviours both within and outside the school environment. The disabilities that coexist with giftedness have been identified through research, and in addition to learning disabilities, other conditions such as ADHD, autism, and physical or social or emotional disorders have also been the subject of recent research. These studies, by revealing the definition of 2E, emphasise the importance of raising awareness specifically for these students and highlight the necessity of adopting appropriate approaches to understanding and supporting their potential.

3.1.6. Prevalence of 2E Students

Due to misconceptions, problems of identification, underrepresentation, misdiagnosing, underreporting or disruptions in services provided for high potential students, the absolute number of 2E individuals remains ambiguous (Bianco and Leech, 2010; Latz and Adams, 2011).

According to a report published by IDEA (Individuals with Disabilities Education Improvement Act) in 2004, more than 300,000 students in schools in the United States have been identified as 2E though the exact figure is not known (Reis et al., 2014). This estimated population reveals the seriousness of the problem and that it is an issue that needs to be addressed in special education. The estimated prevalence of 2E school students in Australia in 2010 is above 40,000 and this figure, approximately, forms 10 % of Australian highly able children (Munro, 2002; Ronksley-Pavia and Michelle, 2014).

Since the majority of studies about 2E are based on the comorbidity of giftedness and learning disability (LD) (e.g., Cooper et al., 2004; Moon and Reis, 2004; Nielsen, 2002; Reis et al., 2000),

data related to prevalence of gifted with LD is more accessible. For example, a study conducted by Agarwal and Singh (2011) estimated that the population of high potential learners with learning disabilities is around 33% within students with learning disability. As regards to generic prevalence, data included in the study by Nielsen (2002) shows that the population of high potential students among disabled students may vary from 2 to 5 per cent (Chamberlin, et al., 2007).

To determine about the 2E population, estimating the number of students who demonstrate exceptional performance within the population of learners with SEND can provide a predictive measure of prevalence (Demir and Done, 2022). When considering these estimates, as for the population of 2E children in the UK, it is difficult to give an exact figure as no records are kept by schools or local authorities under the name 2E, but an approximate estimate suggests that around 80,000 students could be identified as 2E (Yates and Boddison, 2020). Additionally, considering students with disabilities within the gifted population can also provide insights into the prevalence of 2E individuals. For instance, around 3% of the school population is gifted, and within this gifted population, up to 15% may have learning difficulties (Demir and Done, 2022; Karup and Dixit, 2016, p.8; Silverman, 2003).

3.2. Teacher Awareness

Efforts for the education of 2E students hold importance since they help these students realise their full potential and create a supportive learning environment that is suited to their needs (Renzulli and Gelbar, 2020). In this regard, teachers play a crucial role in the educational efforts, and the awareness they raise for 2E students is of great significance (Montgomery, 2020). However, studies (e.g., Dimitriadis et al., 2021; Hopwood, 2019; Roberson, 2016) show that teachers need to be more aware of 2E students to respond effectively to their educational and social needs. The following discussion will address the factors that hinder the creation of this awareness and offer suggestions on the matter. Teachers' perceptions, teaching approaches and practices regarding 2E students will also be examined. In addition, by investigating the difficulties in the identification of 2E students and the reasons for their misdiagnosis, important clues will be obtained for educators to adopt a more accurate and inclusive assessment process. Moreover, teachers' experiences with 2E

students and the methods and strategies they employ for these high potential learners will constitute another crucial important dimension of teacher awareness. The investigations under these sub-headings will help to better understand teachers' awareness and contributions to the education of 2E students.

3.2.1. The Role of Teachers in the Academic and Social-Emotional Development of 2E Students

To address the educational needs of 2E learners, teachers are considered with a remarkable opportunity to provide support and guidance since the teachers observe closely the students' educational experiences (Reis et al., 2014). In this sense, teachers become pivotal figures in helping the students to overcome academic challenges and realise their full potential (Coleman and Gallagher, 2015). Teachers also have a role in creating an inclusive environment that facilitates learning and encouraging the students to embrace their strengths and weaknesses (Kirk et al., 2011). Thus, teachers do not only provide academic support but also foster the social and emotional well-being of the students, guiding them on how to overcome difficulties in their academic and social lives (Coleman and Gallagher, 2015).

Even though they may have low awareness about 2E, teachers are in a position to identify 2E students through their observations and can acquire the necessary knowledge to support these students effectively (Foley-Nicpon et al., 2012). In addition, the fact that the effective communication established by teachers with their students reflects positively on the academic development of the students shows how crucial teachers are in the educational journey of the students (Hughes et al., 2008). The understanding and communication efforts of teachers towards their students will enable the students to discover their own strengths, fostering a motivation to feel accepted by their teachers and sense their support (Wang and Neihart, 2015). As well as the communication efforts, the effective social and emotional relationships that teachers build with 2E students also encourage them in their academic achievements. (Coleman, 2005). This shows that teachers' ability to provide social and emotional support plays a crucial role in fostering a supportive learning environment for 2E students, which positively impacts their overall educational experience and success (Weinfeld et al., 2005). It can be inferred that emotional support provided by teachers also affects the academic development of 2E students, concluding that the needs of the students should not

be considered solely on an academic base. Instead, it is crucial to consider that their needs are interrelated and can influence each other (Wang and Neihart, 2015).

Teachers having the competence to respond to the social-emotional needs of 2E students, rather than focusing solely on academic achievement, can help increase students' motivation and develop their self-concept. This, in turn, positively influences the development of their self-confidence, allowing them to become aware of their abilities (Weinfeld et al., 2005). In this regard, to be effective in supporting the development of 2E students, teachers should approach their development in a holistic way, considering both their academic progress and social-emotional well-being (Wang and Neihart, 2015). Although teachers have a significant impact on students academically and socially, their co-operation with parents and educational administrators is important in terms of sharing responsibility and is an effective step to respond more comprehensively to the special needs of 2E students (Kirk et al., 2011).

3.2.2. Teachers' Perceptions on 2E

Teachers may encounter difficulties in preparing suitable teaching methods and developing education plans tailored to 2E learners due to their limited experience with this group and their potential biases towards the coexistence of abilities and disabilities (Foley-Nicpon et al., 2012; Reis et al., 2004). Neihart (2008) and Foley-Nicpon et al. (2011) argue that the paradoxical nature of 2E students creates a challenging dilemma for teachers to comprehend and accept, and stereotypes, biases, and preconceived expectations further complicate this acknowledgement. In addition, Barber and Mueller (2011) state that, teachers may fall into the trap of having high expectations for 2E students based on their outstanding performance in certain areas, but 2E students' weaknesses in some areas (e.g., social and academic) put teachers in a situation they struggle to recognise.

Teachers perceive the coexistence of exceptional abilities and disabilities in a student as a complex situation, and they may even develop the perception that children with disabilities cannot be exceptionally gifted. Consequently, their expectations are shaped based on this belief (Reis, Baum and Burke, 2014). When teachers' perception of 2E is considered in the context of a standardised duality, the restrictive characteristics of labels such as gifted or disabled also create limited social expectations, which can hinder the social acceptance of dual and multiple exceptionalities (Deleuze and Guattari, 1987). Furthermore, teachers' use

of labels and restrictive social expectations (e.g., expecting only high performance from gifted students) can obstruct their understanding of the complexity and diversity of 2E (Barber and Mueller, 2011). When examined within the framework of Derrida's (1976) deconstructionist approach, the recognition of such contradictions and teachers' avoidance of predetermined categories and traditional labels about 2E students can facilitate teachers in adopting an inclusive perspective that embraces diversity and difference (Barber and Mueller, 2011). From the perspective of teachers, 2E students' disruptive behaviours and social and emotional expressions that negatively affect the learning process may be misperceived, which may lead to overlooking their learning difficulties or abilities (Silverman, 2009).

Teachers' misbeliefs, stereotypes, labels, and traditional categorisation of 2E students can be considered as barriers to the identification of 2E students (Jones, 2014). As a result of these misconceptions and categorisations, teachers may direct 2E students to inappropriate special education services or programmes. Educational methods suggested with a stereotypical approach and educational settings that do not address the needs and abilities of 2E students can adversely affect the academic and social development of these students (Pereles, Omdal and Baldwin, 2009).

From the 2E students' perspective, they may also perceive that only their negative behaviours are in the foreground and that teachers solely focus on negative characteristics of them (Barber and Mueller, 2011). In this case, it may become difficult for students to realise their own potential, and the negative perception that teachers have towards 2E students can become a contributing factor to academic underachievement (Silverman, 2009). Hence, teachers' perception on students plays a significant role in influencing students' self-confidence and self-esteem, as it also impacts how students perceive themselves (Wang and Neihart, 2015). While positive and supportive attitudes of teachers can increase the students' self-belief, a negative or restrictive approach can undermine their self-confidence and lead them to develop a negative self-concept (Weinfeld et al., 2005). Consequently, teachers demonstrating an inclusive understanding towards 2E students and encouraging the students to be aware of their own potential will contribute positively to the academic and social development of the 2E students (Wang and Neihart, 2015).

In their studies, Done and Knowler (2020) examined off-rolling in schools in England, which is the practice of removal of students illegally in order to artificially inflate school performance

data. As a reflection of a competitive education culture, the pressure on teachers to assess students based on the academic performance data may lead to deficiencies in the implementation of an inclusive education system and can have negative effects on teachers' perception of 2E students (Done and Knowler, 2020). When examined from a Foucauldian perspective, this reveals how power can influence social relationships and perceptions (Foucault, 1977), as evident in the context of off-rolling practices. Accordingly, off-rolling not only influences how students are perceived and assessed but reinforces a competitive culture where teachers may feel compelled to prioritise academic outcomes over the individual needs and strengths, reflecting the effect of power on social relations and perceptions (Done and Knowler, 2020). In this sense, in order to facilitate the development of positive perceptions of teachers towards 2E students, the competitive system based on academic performance needs to be revised, and in doing so, the workload of teachers should be reduced (Done and Knowler, 2020; Wang and Neihart, 2015). As a result, teachers may not be solely responsible for the development of negative perceptions; positive outcomes regarding awareness and understanding of 2E can be achieved when all educational stakeholders collaborate and address systemic gaps (Wang and Neihart, 2015). Therefore, it is obvious that blaming and holding teachers responsible for the misconceptions and stereotypes that they have will not solve systemic problems (Thrupp, 1998).

3.2.3. Challenges in Identifying 2E Students

Difficulties in identifying 2E learners can stem from both learners themselves and external factors (Neihart, 2008). In relation to student-related factors, abilities may be masked by their disabilities, or abilities can conceal their disabilities resulting in misidentification or non-identification of strengths and weaknesses and the students exhibiting average performance (Makel et al., 2016, cited in Dimitriadis et al., 2021; Wang and Neihart, 2015). Moreover, due to their lack of self-awareness, 2E students may not be aware of their abilities and instead may focus only on their disabilities, or conversely, strive to excel in their gifted areas, by prioritising society's emphasis on talent (Amran and Majid, 2019; Buică-Belciu and Popovici, 2014). Accordingly, the identification of students with 2E becomes complicated due to the fact that they tend to emphasise solely on their exceptional performance while disregarding or overlooking other difficulties they have (Amran and Majid, 2019). The intricate interplay between abilities and disabilities also leads to the misinterpretation and misdiagnosis of the

disruptive behaviours of 2E students which could be related to their giftedness or disabilities (Juhl, 2020).

As regards to teachers, lack of tolerance towards 2E students, reluctance to understand the students, and deficiencies in awareness and knowledge about the 2E phenomenon also hinder teachers from identifying and discovering these students (Mayes and Moore, 2016). The non-recognition and misidentification of 2E students may result in their inability to benefit from appropriate educational programmes (e.g., gifted education programme and SEND service for the disabilities) and school counsellors being unable to generate substantial solutions to meet the special needs of the students and support their exceptional talents (Chen et al., 2022; Wang and Neihart, 2015). Besides, the identification problems can also cause the development of social-related secondary disabilities (Vygotsky, 1993) such as anxiety, social isolation, low self-esteem, and other social, emotional, and behavioural problems (Johora, 2021; Kozulin et al., 2003). Along with the misdiagnosis of 2E students, overlooking their superior abilities can also cause them to receive education only in special education classes without an adequate effort to explore and develop their abilities, showing how dramatic the consequences of the problems in the identification process of 2E students could be (Hughes et al., 2008).

In the study of Chiang and Lin (2007), it was found that among students with high-functioning autism, those with mathematically superior intelligence were not identified because the focus was primarily on their apparent behaviours and autism condition (Chiang and Lin, 2007; Dimitriadis et al., 2021). Consequently, students may not be recognised or may be misdiagnosed due to being evaluated in a one-sided manner, and this prevents them from receiving the necessary support they need (Dimitriadis et al., 2021).

3.2.4. Teachers` Experience with 2E: Practices and Strategies

Although 2E students can have disabilities alongside their exceptional abilities, it is essential to adopt a strength-based approach by identifying their areas of interest and emphasising their strengths in developing educational plans addressing this approach (Baum et al., 2014). While this approach suggests that focusing on areas where students are deficient may cause anxiety in students, developing strategies to support their abilities caters to the social and emotional needs of 2E students (Reis et. al., 2014). Moreover, rather than coping with a sense

of inadequacy, 2E students will be able to discover their strengths and be motivated to fulfil their potential (Reis et al., 2014). For this reason, in their educational experiences with 2E students, teachers can effectively focus more on the strengths of students, and efforts to identify areas that students can improve can be considered as important strategies in supporting 2E students (Baum et al., 2014). However, a strength-based approach should not mean ignoring the needs and disabilities of 2E learners but should aim to provide a holistic learning experience by emphasising their strengths along with these characteristics (Renzulli and Gelbar, 2020). In fact, this approach transforms students from the perception of themselves as individuals who constantly need to compensate for their deficiencies or whose needs should be met to the position of individuals with high self-awareness and confidence in realising their potential (Baum et al., 2014; Renzulli and Gelbar, 2020). Therefore, teachers can design and implement educational activities that can emphasise these students' skills such as analytical thinking, creativity and problem-solving (Baum et al., 2014; Renzulli and Gelbar, 2020).

Renzulli and Gelbar (2020) suggest that teachers and school counsellors can encourage the use of technological tools such as speech synthesis software to correct spelling mistakes and audiobooks that can help 2E students overcome the difficulties related to their disabilities in educational settings. These technological tools are used to provide educational support to students and offer them opportunities to showcase their potential rather than emphasising their deficiencies or disabilities (Renzulli and Gelbar, 2020). In addition, allowing students with shared interests and strengths to come together, and giving them the opportunity to form small groups will both support them socially and encourage them to develop their talents (Renzulli and Reis, 2014).

Since special education teachers are involved in the identification of disability and the development of educational plans in this regard, while gifted education teachers are more actively engaged in enriching educational practices, it is essential for them to work collaboratively to develop comprehensive educational strategies and effective approaches to achieve outcomes for 2E students (Chen et al., 2022). The responsibility for recognising and supporting 2E children is shared between various stakeholders such as SENCOs in schools in England, organisations such as Potential Plus UK, teachers, and school management, with the aim of meeting the specific needs of 2E children more effectively through interaction and

collaboration between these actors (Yates and Boddison, 2020). The suggested strategies and practices for the education of 2E students mentioned above are expected to be further developed as research and advancements in the identification and awareness of 2E increase (Renzulli and Gelbar, 2020).

3.3. Inclusion Efforts for 2E Learners

The inclusion efforts for 2E learners are highlighted in a separate section to emphasise the considerations associated with this specific group. By dedicating a distinct section to 2E learners, the focus remains on the tailored strategies needed to foster their inclusion within mainstream educational settings. This ensures that the discussion is comprehensive and specific to the intersectionality of intellectual giftedness and special educational needs, offering insights and recommendations that may differ from those for other populations with special needs. Collaborative efforts involving parents, educators, and the school system play a fundamental role, ensuring diverse external resources, programs, and professional services along with classroom strategies (Ronksley-Pavia and Townend, 2017). These efforts aim to contribute to the academic, social and emotional development of students (Baum, Schader and Owen, 2017).

The term ‘inclusive education’, which is often used in special education, has a vital place in meeting the needs of individuals with special educational needs (SEN), preparing them for inclusion into society and raising awareness among other people by bringing them together with their peers in school settings (Florian and Black-Hawkins, 2011). In this sense, the inclusion of 2E students, just as of all other children with special needs, in mainstream schools is also essential for them to adapt to general arrangements and not to feel isolated from their peers (Beckley, 1998).

A fundamental premise of inclusive education is ensuring contextual adaptation for students with SEN through appropriate teaching methods. However, this adaptation of students to social and educational environments does not necessarily imply individualised instructions. Inclusive education, in fact, offers students with SEN the opportunity to share the same responsibilities as their peers, provided that the performance levels expected from each learner with or without additional needs are individualised (Leicester, 2008).

3.3.1. Parental and Educational Support

Regarding intervention efforts, the social and emotional situations of 2E students play a key role in them managing and accepting easily the difficulties that they have, and in determining how they can adapt to social life. It is, therefore, essential that parents and teachers conduct activities that reveal these students' strengths and talents so that they feel motivated and succeed in education settings (King, 2005).

School professionals can create social clubs including areas of common interest such as art, sport and science that might be of interest to 2E students to maximise participation and reduce loneliness. Thus, a sense of belonging will increase in highly able and 2E learners and they feel more motivated as they become aware of their gifts and abilities (Renzulli, et al., 2007). In a study by Reis et al. (1997) regarding this issue, it is reported that 2E children directed by their families towards artistic activities such as dance developed academic and social skills as a result of acting collaboratively with their peers. In order to see expected outcomes from intervention efforts, teachers and parents should also act in a coordinated way to provide 2E children with encouraging environments (Baum et al., 2014).

An Individualised Education Plan (IEP) that addresses the strengths and weaknesses of 2E students, along with differentiated instructions (Mastropieri and Scruggs, 2017), can enable these students to have positive experiences in educational settings. However, considering that there may also be differences among 2E students, educational approaches that take individual differences into account should be considered. In other words, a child-centred approach (Georgeson et al., 2015) could be adopted by determining strategies according to the learning tendencies of students rather than following the traditional teaching methods (Rizza and Morrison, 2007).

The needs of 2E students are not limited solely to the educational context; they also require social and emotional support from parents outside of school, which can indirectly aid in addressing their academic needs as well (Neumeister, Yssel and Burney, 2013). Parents' involvement in the learning experiences of 2E students and creating a supportive learning environment at home can be effective in developing positive attitudes of the students towards school and academic achievement (Jolly and Matthews, 2012). In addition, 2E students can compensate for their weaknesses and disabilities with their high abilities and mask their obstacles, which can lead educators to fall into the misconception that 2E students

do not need to be supported (Foley-Nicpon et al., 2011). However, although 2E learners mask their disabilities and weaknesses, a two-way intervention plan that addresses both their strengths and weaknesses should still be developed, providing the necessary support to these students (Baum, Schader and Owen, 2017).

The strength-based approach, which is suggested by Baum, Schrader, and Herbert (2014), offers an educational method based on the strengths of the students by creating learning styles tailored to the intelligence types and needs of the students, and with this approach, the self-awareness level of the student is also improved. However, it may be difficult to emphasise this approach in educational environments where the curriculum is accepted as the basis of education (Baum, Schader and Owen, 2017).

The differences and disruptive behaviours of 2E students may cause them to be bullied, especially by their peers, consequently, they may feel socially isolated in such circumstances (Baldwin, Omdal and Pereles, 2015). Considering the social support for 2E students, it is important for teachers to create a supportive and inclusive educational atmosphere that addresses the students' social and emotional needs, helping them develop a sense of belonging to the school and guiding them about how to overcome potential difficulties such as bullying in the learning environment (Ronksley-Pavia, Grootenboer and Pendergast, 2019).

Regarding the social and academic challenges of 2E students, parents play a significant role; they are the ones who are able to first identify these challenges and take the necessary steps to ensure that their children receive special education (Baum, Schader and Owen, 2017). However, parents' lack of knowledge about 2E may leave them helpless in how to support their children (Wells, 2018). In this case, it is essential for teachers, parents, and other educational stakeholders to act collaboratively by encouraging open communication and creating a supportive and inclusive learning environment for the students (Ronksley-Pavia and Townend, 2017). Moreover, it is crucial to inform parents about the term 2E and provide them with guidance on effectively supporting their children when they face difficulties in social and academic settings, while also nurturing their strengths and meeting their special needs (Besnoy et al., 2015). As well as familiarising the parents with the term 2E, this collaborative approach can diminish parental stress, promoting the parents' well-being to feel more confident and better equipped in guiding their children effectively. Indeed, the support provided to parents is as significant as the support offered to 2E children (Wells, 2018).

Teachers play a crucial role as they have the opportunity to observe students' in-class behaviours and academic performance, which can enable them to provide the students with valuable academic support (Pereira, Knotts and Roberts, 2015). However, Wang and Neihart (2015) argue that while teachers are expected to be supportive, productive and interactive with their students, they may experience exhaustion and time limitations if they are exposed to a heavy workload. This, in turn, could adversely affect their productivity and communication, leading to challenges in enhancing understanding towards 2E learners and developing effective strategies for them. In this case, it is anticipated that the cooperation aimed at supporting 2E students would be a useful initiative not only for parents but also for teachers (Park et al., 2018). In addition to collaboration, it is important that teachers are encouraged to prepare plans that consider students' individual differences, while policymakers could also work on alleviating the intense workloads of the teachers (Pereira, Knotts and Roberts, 2015).

3.3.2. Policies, Curriculum and Programmes

In the UK, students are not diagnosed as 2E, nor is the category of 2E officially recognised as a subcategory of SEND (Demir and Done, 2022). Nevertheless, through some organisations such as Potential Plus UK, while endeavouring to raise awareness about 2E students, workshops for 2E children to be supported are organised and valuable information and guidance to both parents and educators are provided (Yates and Boddison, 2020). Additionally, there is another foundation known as 2eMPower, which is a joint project created and financed collaboratively between Imperial College in London and GERRIC (Gifted Education Research, Resource Information Centre) at the University of New South Wales in Sydney, Australia. The goal of 2eMPower is to encourage, develop, and support 2E students who have scientific interests, through workshops, to contemplate pursuing careers in STEM (Science, Technology, Engineering, Mathematics and Medicine) fields (Evans, 2017). Despite the fact that these organisations can carry out significant projects for 2E pupils, there is still a need for legislative actions and support to comprehensively address the specific needs of this group of students (Yates and Boddison, 2020). With these legislative measures, better planning, implementation, and monitoring of educational services can be achieved for 2E students, thereby enhancing collaboration between organisations and schools, and facilitating the acquisition of more resources and support for 2E students. This, in turn, could

assist organisations in providing more comprehensive educational programmes and services (Foley-Nicpon and Teriba, 2022; Yates and Boddison, 2020).

Since the existing gifted and talented programmes may not meet the needs of 2E students, and with traditional identification methods, 2E students may be at risk of being misidentified (Foley-Nicpon and Teriba, 2022). Therefore, before developing a policy for 2E students, it is necessary to raise awareness about 2E and develop a comprehensive identification system (Peters et al., 2019). Consequently, the policies and programmes to be developed could prioritise approaches that facilitate the identification of 2E students, which can reduce misdiagnosis or the number of unidentified 2E students (Peters et al., 2019). After this stage, practices tailored to the students' needs can be developed, and how effective support will be provided can be established through policies (Foley-Nicpon and Teriba, 2022). IEPs (Individualised Education Plans) and a differentiated curriculum that prioritise the special interests and needs of 2E students can play a crucial role in preserving diversity within the education system (Kirk et al., 2011). Furthermore, in the implementation of policies and programmes catering to 2E students, it is essential for school counsellors, parents, organisations, and other educational stakeholders to collaborate effectively, in terms of reflecting diverse ideas on curriculum and programmes and sharing responsibilities (Foley-Nicpon and Teriba, 2022). Alongside national policies, teachers' approaches towards 2E students and their instructional methods also hold significant importance (Omdal, 2015).

Although the G&T programme was abolished in 2010 in England (Casey and Koshy, 2013), alternative approaches could be implemented by SENCOs to address the needs of high potential students with disabilities. It is evident that the SENCOs, called by different names in different nations (e.g., Learning Support Co-ordinators-LSCs- in Northern Ireland), play a critical role in schools in England, being responsible for identifying 2E students, fostering collaboration within schools, and developing an action plan for identifying their needs and supporting their strengths (Yates and Boddison, 2020). Regarding local conditions in schools, flexing the curriculum and developing programmes tailored to student profiles show that policies about 2E need to go beyond standardisation (Foley-Nicpon and Teriba, 2022; Lohman and Foley Nicpon, 2012).

3.4. Chapter Summary

This chapter navigated the intricate dimensions of 2E, involving the identification, distinctive characteristics, prevalence of individuals who exhibit both giftedness and disabilities and the studies conducted about 2E. The crucial dimension of teacher awareness, and effectiveness of educators in addressing the distinctive needs of 2E students, was examined while the challenges associated with accurate diagnosis and potential misdiagnosis were also explored. The rhizomatic approach by Deleuze and Guattari (1987) that acknowledges the independence and equality of both abilities and disabilities was considered to develop the understanding of 2E. Additionally, the literature review encompassed inclusion efforts, examining the roles of parental support and educational initiatives in creating an environment that is conducive to the holistic development of 2E learners.

Studies showed that teachers need greater awareness of 2E students to effectively address their educational and social needs (Dimitriadis et al., 2021; Hopwood, 2019; Roberson, 2016; Kirk et al., 2011). External pressures, such as competitive education cultures, were highlighted for their potential impact on teachers' perceptions and priorities, thereby affecting the understanding of 2E students (Done and Knowler, 2020). Notably, the absence of official recognition for 2E in the UK was highlighted, underscoring the requirement for legislative actions to address the specific needs of these students (Yates and Boddison, 2020). It was concluded that policies should focus on raising awareness, comprehensive identification, and collaboration between organisations and schools, by addressing systemic issues and reducing teacher workloads (Foley-Nicpon and Teriba, 2022; Peters et al., 2019; Wang and Neihart, 2015).

CHAPTER 4. METHODOLOGY

In this section, the onto-epistemological positionality of the researcher, study design, sampling and participants, data collection tools, data analysis method and ethical considerations will be discussed in relation to the purpose of the study and research questions outlined earlier. The selected methodology is qualitative, and a questionnaire and semi-structured interviews were employed to investigate the experiences of high potential and 2E students and the opinions of both teachers and students.

4.1. Onto-Epistemological Positionality

The ontological and epistemological position of the researcher plays a vital role in how the phenomenon under investigation is comprehended and what diverse viewpoints could be generated related to it (Creswell, 2009). Accordingly, philosophical positions embraced by researchers significantly influence their approaches, providing a lens through which they interpret and make sense of their observations and findings (Denzin and Lincoln, 2011).

Ontology provides a foundational framework for research, with the aim of understanding the essence of reality and the fundamental nature of existence (Merriam, 2009). In this sense, ontology guides researchers in defining what entities or phenomena are considered relevant and worthy of investigation and empowers researchers to explore the core principles and intrinsic qualities that underlie the chosen research subject (Creswell, 2009). Ontologically, this study highlights the different barriers that prevent 2E students from being appropriately supported within the education system and the question of how these students should be supported. Accordingly, this study expresses how the knowledge to be generated will affect human lives and imagines how the information can be applied in a practical sense. Another ontological perspective emerges when considering how societal perceptions and expectations shape the understanding and recognition of individuals with diverse abilities and challenges; this prompts an exploration of prevailing cultural norms and biases, aiming to foster a more inclusive and nuanced understanding of human diversity.

Epistemology focuses on the investigation of how knowledge is acquired, validated, and justified, thus influencing the methodologies and approaches employed by researchers to

understand the world (Creswell, 2009; Denzin and Lincoln, 2011). By acknowledging the impact of ontology and epistemology, researchers can navigate their studies with a heightened awareness of the underlying assumptions and frameworks that shape their research endeavours (Cohen, Manion and Morrison, 2011). Since studies informed by the concept of twice-exceptionality are still relatively new and limited, and much more knowledge is needed beyond what is available in the current literature, this study is significant in an epistemological sense (Neihart, 2008). Epistemological inquiries in the context of 2E students entail exploring the complexity of their learning profiles and emphasise the need to go beyond traditional measures of intelligence, recognising the value of diverse sources of knowledge, including personal experiences and qualitative research, to gain a comprehensive understanding of their abilities and needs.

Epistemology offers a multitude of foundations, approaches, and methodologies in the pursuit of acquiring knowledge (Cohen, Manion and Morrison, 2011). Within the scope of this study, the interpretivist paradigm is embraced to comprehensively grasp the experiences and subjective perspectives of 2E students, while exploring the phenomenon of 2E within a wide range of social, cultural, and theoretical contexts. Furthermore, the research employs both inductive and deductive approaches (which are explained in more detail in the 'Data Analysis Procedure' section below) to achieve a thorough and comprehensive analysis. In this respect, through an inductive approach, detailed and descriptive data is gathered, enabling the researcher, in the analysis phase, to identify patterns observed in the data (Thomas, 2006). Simultaneously, the deductive approach is utilised in the study to systematically structure and assess hypotheses or pre-existing concepts and theories derived from the literature, analysing the degree of support or contradiction, thereby allowing for the formulation of coherent and rational inferences (Bradley, Curry and Devers, 2007). As a result, by incorporating both approaches, the study can benefit from the unique perspectives and analytical methods offered by each, enhancing the overall understanding and depth of the analysis (Saldana, 2009).

4.1.1. Interpretivist Paradigm

The interpretive paradigm serves as the primary emphasis in qualitative studies, grounded on the premise that a verifiable and directly perceivable objective reality is not feasible. Instead, interpretive research acknowledges the existence of multiple subjective realities, shaped by

social and cultural influences, in which individuals construct their own understanding of the world based on their unique experiences and interpretations (Merriam, 2009). That is, the focus of interpretivist understanding is on exploring these subjective perspectives and uncovering the social truths embedded within them, with the aim of capturing the complexity and diversity of human experiences, rather than seeking a single, universally applicable reality.

The nature of interpretivist research is to define meaningful social actions that make the research necessary (Neuman, 2014). For this to happen, it is necessary to focus, not only on objects (events and behaviours) but also on the meaning created by the objects based on people's experiences (Pring, 2015). Interpretivism goes beyond these human actions to be explained through a causality principle and provides researchers with an opportunity to explore the actions or events from the perspective of participants; thus, researchers can understand different points of view, opinions, and values (Wellington and Szczerbinski, 2007). The interpretive paradigm allows researchers to more comprehensively and explicitly examine the conditions that shape participants' viewpoints and make semantic connections through data collection techniques such as interviews or observations (Cohen, Manion and Morrison, 2011; Merriam, 2009). Each subjective experience contributes to building the dynamics of the research and creates meaning within itself, and it is essential for an interpretivist researcher to reveal this meaning as worthy of investigation (Neuman, 2014). In this regard, it is the role of the researcher to correct misconceptions about dual exceptionality in high potential students, and to explore, identify and explain their needs in the context of social justice as 2E children are still misdiagnosed (Mertens, 2007). Based on an interpretivist paradigm, this study investigates the underrepresentation of 2E students in social and educational contexts and their experiences (Creswell and Poth, 2016).

It is acknowledged in this research that the researcher's objective is not to seek a singular truth or objective reality, and the experiences of 2E students and teachers and the perspectives they share are considered unique, special, and valuable in the creation of data. The data collection process, primarily through interviews, served to enhance the interpretation of participants' viewpoints and foster a broader understanding of the subject matter. Moreover, the researcher's background and comprehensive understanding of the 2E context brought an additional dimension of depth to the interpretive process, uncovering new nuances and perspectives. By considering the multifaceted nature of the participants'

experiences and incorporating contextual knowledge supported by a theoretical framework, this research endeavoured to provide a comprehensive and nuanced exploration of the 2E phenomenon.

4.2. Research Design

The research design is founded upon a qualitative methodology, endeavouring to contribute to the existing body of knowledge in a significant manner by generating compelling insights into the topic at hand. Brantlinger et al. (2005) point out that qualitative research in the field of special education uncovers the attitudes, thoughts, emotions, beliefs, and perspectives of educators, counsellors, students with special needs, families, and various individuals involved in special education (e.g., Avis and Reardon, 2008; Bodvin et al., 2018; Meegan and MacPhail, 2006). Additionally, there are studies that explore personal experiences, views, and thoughts regarding the effectiveness of practices and certain teaching methods and techniques used in special education (e.g., Baglama et al., 2017; Boardman et al., 2005). While the reported study does not specifically encompass participants' opinions, suggestions, or evaluations on the utilisation of specific teaching methods and techniques in special education settings or mainstream schools, it does include different perspectives on the current state of educational environments for 2E students and teachers.

Qualitative research can aim to amplify the voices of marginalised or stigmatised individuals, providing them with an opportunity to share their personal experiences, and thereby contribute to a more comprehensive societal understanding (Bartlinger et al., 2005). In this study too, 2E students are acknowledged as a marginalised group, and their conveyed personal experiences are regarded as valuable data, which is examined through content analysis. Moreover, an exploratory approach is adopted to provide in-depth and descriptive insights (Creswell, 2009) into the views and experiences of both 2E students and teachers. By doing so, the study aims to examine the social and academic experiences of 2E students, while also exploring teachers' observations regarding the in-class behaviours exhibited by these students.

It is crucial to acknowledge that the unprecedented circumstances induced by the COVID-19 pandemic, coupled with the inherent difficulty in recruiting participants who meet all of the

required criteria, posed substantial challenges, leading to delays in the data collection process. However, in response to these constraints, an adaptation of data collection strategies, including the implementation of virtual interviews and online surveys, was embraced to effectively overcome the obstacles imposed by the pandemic. Furthermore, an expansion of the age range of potential student participants was adopted to enhance the flexibility of sample selection. Despite the prolonged data collection period, the utmost care has been taken to uphold the integrity of the study, and the research design demonstrates the ability to navigate and accommodate the impact of these challenges.

4.2.1. Qualitative Exploratory Research

The research was conducted using an exploratory qualitative approach to a problem whose definition remains unclear; exploratory studies turn a specific issue into a more descriptive and clearer form, generating new ideas (Creswell, 2003; Sarantakos, 2005). In the social sciences, most of the exploratory research which is increasingly advocated (Mason, et al., 2010) consists of qualitative research designs (Creswell, 2009; Stebbin, 2001). Researchers conducting a qualitative study identify the underlying contextual aspects of a problem, which are beyond the obvious, thereby revealing opinions, values, perspectives, observations, feelings, and prejudices composing the subjective experiences of the participant group or individuals (O'Reilly and Parker, 2013).

In exploratory research, a new subject is developed using contemporary concepts (e.g., twice-exceptionality) or an existing issue is re-considered from different perspectives in the contemporary context (Mason et al., 2010). Qualitative exploratory research is generally inductive rather than being based on existing studies, theories, or presuppositions; thus, results from the research are limited to the data collected and do not permit, or are not useful for, the type of generalisation found in quantitative research involving analytical statistics (Boeije, 2010; Casula et al., 2021). Although qualitative exploratory research, by its nature, focuses on specific cases or contexts, and the findings are primarily grounded in the data collected (Casula et al., 2021), pre-existing theories, concepts and hypotheses in the reported research enabled the identification of potential contradictions and incongruences between the data and the established body of knowledge, providing a comparison and allowing a deeper exploration of the data. Gilgun (2015) also suggests that qualitative research can employ conceptual frameworks derived from extensive literature reviews and

prior theoretical supposition. Conceptual frameworks serve as the fundamental building blocks for hypotheses and insightful concepts, which subsequently influence the trajectory of exploratory research and offer valuable guidance for data collection and reporting endeavours conducted by the researcher (Casula et al., 2021; Gilgun, 2015, p.4). In this study too, the proactive construction of a conceptual framework and employment of existing theoretical assumptions facilitated the exploration of the complex phenomena of 2E and enhanced understanding of its underlying philosophical and conceptual foundations. In this sense, this research adopts an innovative and integrated approach that encompasses both inductive and deductive reasoning, thereby ensuring a comprehensive analysis.

In order to establish a balanced compromise between the advantages of pre-conceived theorisation that provides structure and the accommodation of emergent novel theories enabling flexibility, Gilgun (2015) introduced the concept of Deductive Qualitative Analysis (DQA). According to Gilgun (2015, p.14), the use of DQA requires preliminary conceptual frameworks and hypotheses that are subject to revision, with the aim of advancing a more nuanced theory than the initial construction. DQA facilitates the generation of novel and more significant hypotheses while also providing an enhanced level of structure for qualitative researchers, regardless of their level of experience (Pearse, 2019).

As Bryman (2008) argues, findings in qualitative research can be generalised through their association with the results of other studies conducted in the field. Following Lincoln and Guba (1985), the emphasis will be on trustworthy and credible findings that may have transferability. Plano and Clark (2016), emphasising the transferability aspect of qualitative studies, also advocate that transferability is one of the factors making a study more widely applicable. It is, however, expected that further studies in this area will become more transferable as the knowledge gap is reduced and more research is conducted, and different assessment and evaluation tools are developed.

4.3. Sampling

In order to ensure the accuracy of data collection, it is important to have a sound justification for sampling that aligns with the research objectives. Furthermore, the selection of data

collection tools should be carefully deliberated since they have the potential to impact the sampling process which is a vital aspect of the research (Mason, 2002).

Probabilistic sampling is associated with quantitative research, statistical validity and generalisability of results, while purposive sampling facilitates the detailed study of situations that are considered to contain a wealth of information (Denzin and Lincoln, 2008). Purposive sampling methods that are not based on probability are of particular relevance to qualitative studies, where compatibility with the research topic and aims in the selection of a sample is more significant than the representation of a population (Patton, 2002; Sandelowski, 1986). Therefore, student and teacher participants were selected through a purposive sampling method which is useful for qualitative studies to ensure a diversity of participants in conformity with the criteria of the research (Patton, 2008). Due to the generalisation-based nature of quantitative research, relatively large samples are needed for study samples to represent the relevant population, while qualitative research requires small groups as it is mostly conducted based on observations and interviews (Morse, 2016).

Given the research objectives and specific participant criteria, grammar schools and SEN schools in Plymouth were purposefully chosen as the sample group at the first stage, as they were expected to possess a high potential for providing valuable and relevant insights and information. While the primary target sample was intended to consist of these schools, due to the challenges in meeting the data criteria and accessing the data, the sample scope was broadened to incorporate various associations, organisations, and special education schools in several cities in the UK. However, at the recruitment stage, data was specifically collected from schools in Plymouth and London. For this reason, it is expected that the data in this study represent 2E in English education system only. Furthermore, valuable insights were sought through engaging in discussions with esteemed academics, educational administrators, and authors renowned for their expertise in the field of 2E. Nevertheless, with the exception of a single student from London, the sample ultimately remained confined to students from SEN and grammar schools situated in Plymouth, as well as students studying at the University of Plymouth. Mason (2002) argues that the sampling process, including determining the sample size, can provide valuable contributions to the researcher in terms of understanding the roadmap, functioning, and process of the research. Nevertheless, Cohen, Manion and Morrison (2011) indicate that, within the conditions of the research process, it may not always

be feasible to attain an exact and precise sample size that fully represents the research population, countering the notion that a larger sample size necessarily ensures the highest level of representativeness. Therefore, it is imperative to consider that the condition of the sample should not be solely assessed in terms of its representativeness but also evaluate the researcher's ability to flexibly determine the sample size within the constraints of the research conditions to ensure a comprehensive understanding of the research process (Mason, 2002).

4.4. Participants

The study was conducted with the participation of a total of 5 (five) 2E students at the University of Plymouth and various high schools located in both Plymouth and London. Furthermore, the study incorporated the participation of 7 (seven) teachers with diverse subject expertise and experience, including both mainstream schools and special schools in Plymouth. The data from both teacher and student participants were meticulously collected throughout the academic years of 2021-2022 and 2022-2023, ensuring a comprehensive representation of their experiences and perspectives. The inclusion of students from different educational levels, diverse genders and sexualities, and various ages enhanced the diversity of the study, highlighting the uniqueness and individuality of each participant. In this context, the examination of 2E within the theoretical framework of inclusion and diversity, coupled with the consistency exhibited by the participant profile, is perceived as a significant opportunity for this research. Moreover, the presence of multi-disabilities among some students, such as the co-occurrence of dyslexia, dyspraxia, and giftedness, introduced a distinctive aspect to this investigation of 2E phenomena. This aspect enhanced the depth and complexity of the study, permitting valuable insights into the intersectionality of exceptionalities and its implications for educational practices. It was a requirement for student participants to have a formal diagnosis of at least one of their exceptionalities or disabilities, or both.

For teacher participants, the criteria included having current or previous experience with 2E students and possessing a background that would enable them to share insights regarding these students. All participants were reached through a network established with the supervisors and other colleagues pursuing a Ph.D. at the University of Plymouth, and a flyer,

as shown in the Appendix, was distributed to schools via email as an introduction to the data collection process.

4.4.1. Student Participants

Ultimately, a total of 5 students of different genders, who are highly able and twice exceptional in the age range from 13 to 27 studying at secondary schools located in London and Plymouth, and at the University of Plymouth in the 2021-2022 and 2022-2023 academic years, participated in the research. Participating students were selected based on the criteria of 2E that they are gifted and have disabilities, according to their statement. The criteria associated with 2E were adhered to, and attention was given to ensure that potential participants also had these characteristics. This approach was adopted due to the absence of formal identification for 2E in the educational system. It was observed that most students were formally diagnosed with a disability but were not classified as gifted.

In this study, while initially targeting students from younger age groups, post-pandemic conditions necessitated an expansion to include larger age groups, including university students due to the difficulties in accessing students, and participants' past social and educational experiences were incorporated into the research. The student participants consisted of two high school students, one undergraduate student and two master's degree students. Semi-structured interviews (either face-to-face or via Zoom) were conducted with all students regarding their academic and social lives.

Demographic details of student participants are shown below in Table 4.4.1.1.

Table 4.4.1.1. Demographic profile of student participants

Participants	Age	Gender	Education Level	Location
Ashley	15	Female	High School	London
Mia	13	Female	Grammar High School	Plymouth
Oliver	25	Male	Undergraduate	Plymouth
Sophia	27	Female	Master's Degree	Plymouth
Amelia	25	Female	Master's Degree	Plymouth

Considering the convenience of location, transportation, pandemic conditions, and participants' circumstances, all participating students were engaged in interviews utilising a flexible approach, encompassing both face-to-face interviews and virtual meetings conducted via Zoom. In this regard, while all participants in Plymouth were interviewed in person, a remote interview was arranged with Ashley to ensure participation in the study, and this participant joined the study from London using the Zoom platform due to the location constraints. All names presented in the table have been fictionalised to comply with ethical rules and ensure privacy protection. By embracing a dynamic interviewing approach, methodological adaptability can be evidenced which accommodated the diverse circumstances shown above. Thus, the study not only facilitated comprehensive data collection but also demonstrated a commitment to methodological rigour and inclusivity. This deliberate and thoughtful approach allowed for an enriching and impactful exploration of the participants' perspectives.

4.4.2. Teacher Participants

A total of 7 (seven) teachers, drawn from a diversity of schools, including special education schools, grammar, and high schools, and with experience in teaching 2E students prior to or during the data collection period, also participated in the study by completing a semi-structured questionnaire form sent by email and Google Forms prepared online relating to students' in-class behaviours and academic performance. Most of the student participants (three out of five) were from higher education; however, none of the seven teacher participants was selected from higher education, indicating a distinct participant demographic for the two groups. This discrepancy was attributed to several practical challenges, primarily limited accessibility to teachers in higher education. It was also considered that establishing communication and collecting data from higher education teachers might demand an excessive amount of time, potentially hindering the efficiency of the study. The exclusion of higher education teachers ensured a more feasible and timely data collection process. While this decision does represent a limitation, it is recommended that future research endeavours seek the engagement of lecturers from higher education.

With the limited number of participants, the study aimed to detail subjective experiences, ensure data diversity and identify different meanings in the results to be obtained (Silverman, 2016; Teddlie and Tashakkori, 2003). The uncertainty caused by pandemic conditions and the accessibility of participants shaped the data collection process and sample size.

The demographic profiles of teachers who participated in the study are shown below in Table 4.4.2.1.

Table 4.4.2.1. Demographic profile of teacher participants

Participants	Gender	Subject	Experience Year	School Type	Participation	Location
Thomas	Male	Art	22	Comprehensive	E-mail	Plymouth
Isabella	Female	Geography	10	Grammar	Google Form	Plymouth
Charlotte	Withheld	English	30	Grammar	Google Form	Plymouth
Emily	Female	Science	17	Special	Zoom Interview	Plymouth
Sienna	Female	All	34	Special	F2F Interview	Plymouth
Rosie	Female	All	14	Special	F2F Interview	Plymouth
Phoebe	Female	All	10	Special	F2F Interview	Plymouth

Table 4.4.2.1. illustrates the inclusion of teachers with distinct gender identities, subject areas of expertise, and years of experience, thus emphasising the significance of diversity and multiple perspectives within this study. Furthermore, the study sought to enhance the richness of the data by focusing on the varied backgrounds of the teachers involved. In this regard, the utilisation of different participation methods, including e-mail, Google Forms, zoom interviews, and face-to-face interactions, exemplifies the study's commitment to encompassing a wide range of perspectives and employing diverse strategies during the data collection process. As with the student participants, the names of the teacher participants have also been altered in accordance with the privacy policy to ensure confidentiality. It was explicitly communicated to both the participants themselves and the university's ethical committee that the participants' names would be anonymised.

4.5. Data Collection Process and Tools

Data collection processes were managed according to pandemic conditions and the accessibility of participants, and the sample was shaped considering the prevalence of 2E school children in the UK. The student criteria for data collection were to demonstrate outstanding ability in science, art, sport or academics and to have an additional condition such as autism or ADHD. However, schools in England do not diagnose pupils as having 2E, which made direct access to participants difficult. Therefore, it was attempted to reach students who were gifted amongst groups with diagnoses such as autism, dyslexia, etc. Therefore, a group that was not only highly gifted but also had an additional disability further narrowed the sample population. After initially targeting 2E students at the high school level in Plymouth, the sample of the study was expanded to include students at Plymouth University. In this regard, this research project demonstrated flexibility in response to the social context and circumstances which affected the course of the study. The project was organised in accordance with a study plan evidenced in a Gantt Chart presented in Appendix I.

Interviews and questionnaire forms used in this research offer distinct advantages and limitations. Interviews are known for providing rich and in-depth insights (Rubin and Rubin, 2011) due to their flexible nature, which allows for dynamic exploration of complex phenomena (Fontana and Frey, 2005). However, the interviews are susceptible to biases and resource intensiveness, raising concerns about subjectivity and the allocation of significant time and resources (Bryman, 2008). Questionnaire forms provide efficiency and cost-effectiveness in studies, especially when targeting a large sample (Dillman et al., 2014). The questionnaire forms also foster honest responses (Couper, 2000), yet closed-ended questions may prompt superficial responses and risk misinterpretation due to the absence of interviewer clarification (Smith, 2015). Conversely, the semi-structured interview and questionnaire forms used in this study offered participants the opportunity to express their thoughts more freely and provide in-depth qualitative data for analysis (Creswell, 2013). Incorporating both interviews and questionnaire forms in the current research also demonstrate adaptability to challenging circumstances, particularly the constraints imposed by the pandemic.

Before collecting data from participants, gatekeepers, experts such as university lecturers, teachers working in secondary schools and experienced educators were interviewed to gather their opinions on accessing data from student participants. It is essential to note that these interviews were not part of the study; however, they provided valuable background information prior to commencing interviews with potential participants. Following these interviews, assistance was sought through e-mail communication from school principals and Special Educational Needs Coordinators (SENCOs) in various cities across England to reach eligible students based on the criteria. However, many of them declined the request due to data protection policies, while some responded positively. Parents were also reached through platforms where the study was presented (e.g., Education Faculty Conferences and research seminars) in addition to schools. When selecting participants, it was a prerequisite for students under the age of 18 to have obtained parental consent for their involvement and to be diagnosed based on their abilities or other conditions meeting study criteria.

The study primarily employed an interview procedure and semi-structured questionnaire form as data collection tools. The data collection tools were tailored according to the ever-changing COVID-19 situation, and the participants' preferences and circumstances. The interviews were conducted both through Zoom meetings and face-to-face interactions, while the interview form was completed by teacher participants via email and Google Forms, providing them with flexibility in their responses and data submission. Details of the data collection tools are given below.

4.5.1. Interview (Face to face/online)

Semi-structured interviewing is considered an appropriate method for data collection in education studies as it offers flexibility to the researcher and participants (Creswell, 2013). When preparing semi-structured interviewing questions, limited and specific questions that can be understood easily by the respondent and that can deepen understanding of the subject being investigated should be prepared based on a conceptual framework (Forrester and Sullivan, 2018; Seidman, 2006).

Interviews directed towards students contained questions about communication with their environment and peers, and how they manage any difficulties that they experience. All student participants were interviewed through a single interview session conducted via Zoom

and face-to-face. One student participated in the interview with her parent. The student participants were informed through information sheets that the interviews would be recorded for subsequent analysis. Participants under the age of 18, with the consent of both them and their parents or guardians, provided their consent by signing the consent form, thereby affirming their willingness to participate in the study.

Another interview schedule was organised for the teachers and used as a data collection tool, enabling teachers to discuss their observations of students in social situations, as observed in classes, and their academic achievements. While not all, some teachers were interviewed once in person and via zoom. The procedure for recording the interviews was clearly communicated to these participants in advance, and their consent was obtained prior to the commencement of the interviews.

Face-to-face interviews were held in the schools of the teachers and students or at the university, thus, the places where the participants could feel the safest were chosen by asking the participants themselves. In order to conduct an interview with a secondary school student, permission was obtained from the school management and the SENCO, and a room at the school was booked. This meeting at the school was carried out with the knowledge of the student's parent. Moreover, this participant was accompanied by one of the teachers at the school; however, the questions were asked only to the student. Thus, the teacher was present in the interview and allowed the student to express her thoughts and feelings more freely. In addition to this interview, a Zoom meeting was held with a high school student accompanied by her parent. As a result, all participants under the age of 18 were accompanied by either a parent or a teacher, ensuring a more comfortable interview with the students. Students, teachers, and parents were informed and signed a consent form in advance that the face-to-face interviews would be audio-recorded, and the zoom interviews would be video-recorded. Therefore, the interviews were conducted with care in accordance with ethical principles.

4.5.2. Questionnaire Form (E-mail, Google Forms)

Leveraging digital platforms, such as Zoom for interviews and email as well as Google Forms for questionnaires, reflects a pragmatic response to ensure the continuity of data collection in unprecedented times (Dillman et al., 2014). In the current research, the use of Zoom for

interviews provided the broader recognition of online methods as practical alternatives during disruptive events. Moreover, employing email and Google Forms for questionnaire responses not only streamlined the data collection process but also took advantage of the participants' flexibility in responding at their convenience. This combination of traditional and digital methods showcases efficiency in data collection and resonates with the broader literature highlighting the benefits of mixed-mode surveys (Couper, 2000). However, it is important to acknowledge certain limitations inherent in this approach. Moreover, the absence of face-to-face interaction, particularly in Zoom interviews, may impact the depth of responses, as nuances in body language and non-verbal cues may be lost (Rubin and Rubin, 2011). Despite these considerations, the strategic combination of interview and questionnaire methods tailored to the circumstances underscores the adaptability of the research design.

The questions contained in the questionnaire forms, prepared in addition to the interview schedules, were the same questions asked at interview sessions to ensure consistency. Although the interview forms were prepared in advance for both teachers and students, none of the student participants completed the interview forms, while some teachers opted to complete the interview form instead of participating in an interview. The interview questions were also formatted as an online survey using Google Forms and potential participants were sent a link via email to participate in the data collection process. As a result, the teachers who chose to complete the form provided their responses either via email or through Google Forms. This approach ensured flexibility and convenience in data collection, accommodating the preferences of the participants while maintaining a consistent set of questions throughout the study.

4.6. Data Analysis Procedures

The data analysis procedure employed in this study was designed to generate deep insights into the research subject, by adopting a synergistic combination of inductive and deductive approaches. This section presents an overview of the methodological framework utilised, with a focus on content analysis and reflexive thematic analysis as the primary analytical tools.

Additionally, the importance of ensuring validity and reliability in the data analysis process, as well as the inclusion of transferability considerations in qualitative research, will be discussed.

To ensure a comprehensive analysis, a reflexive thematic analysis approach was also employed for the qualitative data collected from the interviewed teachers. Due to the inadequacy of the data obtained from the teachers, the lack of categorisation, and therefore the limited number of themes, it was decided to analyse the teacher data with the reflexive thematic analysis method (Braun and Clarke, 2006). This involved a systematic exploration of the data to identify overarching themes and patterns that captured the essence of the teachers' perspectives (Braun and Clarke, 2019). In this study, despite the use of various types of analyses (content and reflexive thematic), it is important to acknowledge the existing limitations in the dataset and the difficulties that hinder the generation of additional data. Restrictions related to the pandemic and participant access significantly influenced the shaping of the dataset, particularly in terms of sample size. Although the dataset could not be expanded, the findings obtained from the available data have the potential to provide valuable and meaningful insights within a specific context that the current study addresses. The acknowledgement that more data would have been preferable aims to encourage a more nuanced and realistic understanding of the scope and conclusions of the study. Despite these limitations, the current dataset also offers valuable perspectives on important patterns and insights related to the focus of the research.

All audio recordings and Zoom interviews were listened to repeatedly by the researcher before the transcripts were prepared. A transcript application was used to create the transcripts for the students and teachers, and the accuracy of the transcriptions was verified by re-listening to the entire recordings. Since all student participants were interviewed face-to-face or via Zoom for an average of 50 minutes, the student data contained more extensive content compared to that of the teachers, and thus, the adequacy of the codes for categorisation was ensured. Among the data collected from the teachers, three of them completed the questionnaire form via Google Forms and email, which resulted in some questions lacking sufficient answers and the interviews not containing explanatory details. Hence, it has been necessary to analyse the student and teacher data separately with different methods (content analysis for students' data and reflexive thematic analysis for teachers' data). In both data, direct quotations of the participants are presented in the Findings and Discussion section

using fictional names. Since the research is based on an inductive and deductive approach, it supports discovering anticipated themes, while also capturing unexpected and interesting findings that reveal during the analysis.

4.6.1. Inductive and Deductive Approach in Data Analysis

This section shows which and how the approaches to data analysis were used, drawing on the existing methodological literature. The theoretical underpinnings of the data analysis process and its stages are explained, and how using the two apparently opposed perspectives of deduction and induction could together produce a rich analysis and interpretation in a qualitative study is also presented.

Inductive analysis is an approach that aims to identify a concept, theme, or model through a detailed reading of the raw data, interviews, and interpretations, or to gain a novel understanding by viewing previous theories from a different perspective (Gabriel, 2013). The deduction, however, is an approach that assesses or tests whether previously developed assumptions, hypotheses or theories related to the research subject are compatible with the newly obtained data (Thomas, 2006).

The data collected in the form of transcripts and questionnaire forms in this research served as the fundamental source material for research. Nonetheless, to derive insights and comprehension from the data, the researcher must analyse and interpret them by carefully examining the information; in essence, the raw data, which is the starting point, needs to be contextualised and given meaning by the researcher's interpretation and analysis (Pope et al., 2000).

In the analysis process of qualitative studies, it is possible to deploy both inductive and deductive approaches simultaneously (Saldana, 2009). This dual approach not only enables the utilisation of previous theories but also makes it possible to develop novel and useful theories. That is, when the two approaches are used together, induction does not prevent the researcher from being influenced by previous theories, while deduction does not restrict the development of a new model (Saldana, 2009). Furthermore, studies adopting a combined inductive and deductive approach enable both to fill the gaps between induction and deduction and to build different understandings (Perry and Jensen, 2001). In this study, using the inductive approach, new patterns and themes are derived from the data while using the

deductive approach, these patterns and themes are related and compared with existing theories and the literature. Thus, these two approaches can be seen to feed into each other when combined, offering an opportunity to stretch the rigidly delineated boundaries that they have when used separately.

In this section, both approaches will be addressed individually, and the use of a dual approach will also be explained to provide a strong rationale for the adoption of such an approach.

The aims of an inductive approach are as follows:

- To convert a diversified and heavy-content text obtained as data into a summary format.
- To establish a connection by comparing the findings extracted from the data with the research questions and, thus, to see how well the research serves its purpose.
- To generate a model or a theory.
- To make dominant and repetitive keywords visible, as they are not always visible in the data text.

(Thomas, 2003).

Accessing comprehensive findings from a complex data set by summarising themes and categories is the key feature of an inductive approach; identifying and making concepts visible to explain, where they are not explicitly stated in the data text, are also integral to this approach (Thomas, 2006).

The inductive approach is associated with the analytical strategy of Grounded Theory (Strauss and Glasser, 1967), where it is viewed as essential to generate information and build a mid-range theory entirely from raw data (Gabriel, 2013; Saldana, 2009). Grounded Theory is, however, better suited to projects that investigate a phenomenon that has not been previously acknowledged or researched. From this perspective, it can be concluded that not all research conducted using an inductive approach must create a theory to explain a novel phenomenon and, in this regard, Grounded Theory differs at the point of theory generation (Gabriel, 2013; Thomas, 2006). Liu (2016) also explains that the main difference between other inductive approaches and Grounded Theory is that the priority of the former is not to produce a theory. Sometimes, rather than seeking to uncover a new phenomenon, inductive

approaches can involve looking at a previously researched phenomenon from different perspectives (Gabriel, 2013). In the current study, where the concept of twice-exceptionality has already been documented and previously researched, this concept will be looked at from different angles and re-evaluated.

Although Grounded Theory could be applied in different versions according to the goals of the research (Charmaz, 2002; Walker and Myrick, 2006), the first and original version (Strauss and Glasser, 1967) is discussed in this section. This version suggests that a detailed review of published texts related to the topic is mostly left until after the data analysis to avoid the researcher being influenced by previous theories in the literature (Dunne, 2011). Following the development of a theory or theories through data analysis, a comparison is then made with existing theories found in the literature (Perry and Jensen, 2001). This procedure was not adopted in the current research since there were already pre-existing and related concepts (e.g., masking in twice-exceptionality). The interview questions were also based on the information in the literature.

Through an inductive approach in qualitative research, researchers can systematically identify significant patterns and relationships in the data, leading to the development of novel insights that are firmly rooted in the data. In this study, the researcher aimed to ensure the visibility of concepts and to obtain clear and summative findings by minimising such complexity, based on data containing students' and teachers' own views (Finlay, 2012). As the data might be complex to interpret due to its subjective nature, the aim is to reduce any potential confusion or ambiguity. By doing so, core concepts, patterns and themes that are identified in the data are organised clearly and used to produce relevant and concise findings. An inductive approach, in this context, is flexible and descriptive due to the fact that it identifies the different perceptions of participants and places these into a meaningful and understandable format without having to generate a theory (Cooper and Endacott, 2007). This study aimed to link the research questions and objectives with themes by transforming the distinctive perspectives and descriptions of students and teachers into themes and categories (Thomas, 2006). This explains why the researcher has, in part, adopted an inductive approach.

Thomas (2006) lists the stages of a study conducted by adopting an inductive approach as follows:

- Preparation of raw data (e.g., interview transcripts)
- Reading the data text in detail and identifying certain themes and concepts
- Identification of categories (many categories and themes may be derived in the first phase, but these can be further minimised)
- Reducing overlapping and an excessive number of categories and grouping categories referring to the same point under one heading
- Continuing the revision of categories such that a category containing an opposing view or different understanding is either subdivided or the categories merged by linking them to each other.

Similarly, Creswell (2002) clusters the stages of inductive analysis under five headings:

1. Initial reading in detail
2. Segmentation of data text in accordance with the research objectives
3. Labelling segments to generate categories
4. Merging of overlapping categories
5. Developing a model or theory incorporating the most important categories

The objective of a study adopting an inductive approach, as shown in the stages outlined above, is to create main themes and categories by reducing and combining many of them and then to access comprehensible and summarising findings from a complex data text. The exploratory and qualitative nature of the research and the adoption of an interpretive paradigm are also reflections of this approach (Liu, 2016). The study's exploratory and qualitative nature enables the uncovering of new insights and the exploration of new areas of knowledge. In order to access meaningful results from the data analysis process, a connection should be made between the research questions and the findings, and whether this connection also serves the purposes of the research should be assessed (Liu, 2016; Thomas, 2006).

The deductive approach is basically a framework for data analysis that includes a coding process with themes (Braun and Clarke, 2006; Burnard et al., 2008). In this approach, codes are derived from the literature and research questions; therefore, the researcher tests the existence of codes created in advance by anticipating that these codes may also exist in the data (Bradley, Curry and Devers, 2007). Prior to the data analysis process, the preliminary

categories and theoretical findings obtained from previous studies are compared and further developed; hence, a deductive approach is evidenced at this stage. Also, Saldana (2009) and Gabriel (2013) point out that the matching of previously determined codes and information acquired from data is done during analysis in a deductive approach. This shows that information is organised prior to the data collection process, by forming hypotheses which are then assessed in line with the data to be obtained. Researchers, accordingly, can organise pre-existing theories or hypotheses and evaluate the extent to which these are supported or contradicted through this process, which is a key feature of deductive approaches. This assessment is carried out by comparing the relevance and applicability of codes with the data (Saldana, 2009). This contrasts with studies adopting an inductive approach where codes are developed as the data set is analysed, and there are no pre-determined codes as in deductive studies; that is, the themes and codes created in research adopting a purely inductive approach are a product of data (Patton, 1990). In the present study, code generation began prior to the data collection process, and codes were compared by dividing them into two categories: pre-codes and post-data codes. Thus, code generation that starts prior to analysis is significant for the interpretation of the data as well. In research where both approaches are used, the aims are to initially generate categories from the data, to minimise similar categories by grouping them under a more inclusive heading, and to establish relationships between these categories (Suter, 2012; Thomas, 2006).

The deployment of both approaches in the current research was deemed likely to generate a more comprehensive and nuanced understanding of the data as each approach has its own distinct perspective and method for the data analysis process. In deductive coding based on the codes and themes derived from the existing research literature and the research questions, findings obtained through analysis and the pre-determined codes show a high degree of similarity. Thus, in deductive research, it is important to carefully select pre-existing concepts, codes and resultant hypotheses in the data analysis process (Saldana, 2009). A deductive study begins with formulating hypotheses and setting out an approach to their assessment or testing (Gabriel, 2013). In this study too, themes and concepts acquired from the literature were available; however, the inductive approach allowed for the generation of new codes and concepts, and the development of the pre-established themes. The newly

identified concepts and codes were also mapped to existing ones; this strategy explains how both inductive and deductive approaches were adopted at the same time in the research.

Although induction and deduction are considered to be approaches that complement each other in this research, analyses and interpretations may be influenced by the subjectivity of the researcher (Bryman and Bell, 2015; Denzin and Lincoln, 2011). This could be construed as a methodological limitation, however, to reduce potential bias due to the researcher's prejudices, supervisors were also consulted in the coding process and interpretation of the findings for cross-checking purposes. In addition, the results were compared with the results of other studies to ascertain whether new findings or theories had been identified and developed.

In this study, a conceptual framework was created based on a literature review before data analysis commenced. Moreover, following the data analysis stage, conducting a literature review provided the opportunity to develop a variety of themes and concepts obtained. By doing so, it was possible to not only develop novel ideas but also compare them with existing ones presented in the literature. The research, accordingly, utilises the inductive and deductive approaches described in this section at different points. However, the research did not have to follow the steps of pure induction and deduction as they have no sharp boundaries (Perry and Jensen, 2001).

4.6.2. Content Analysis

Content analysis involves the examination and interpretation of communication through the application of data conversion techniques (e.g., coding), and aims to facilitate a better understanding of the narratives being conveyed (Bengtsson, 2016). This process is described as the organisation of data into a more standardised form in order to facilitate analysis (Babbie, 2001). Qualitative content analysis also enables the production of a social reality or phenomenon from the perspective of the participants (Downe-Wamboldt, 1992). Accordingly, the analysis focused on whether and how the concept of twice-exceptionality is understood by participants. Bryman (2004) defines this method of analysis as a systematic analysis that extracts meaning by generating codes and categories from the data text. This coding process can allow for subjective judgements by the researcher (Ryan and Bernard,

2000); it determines the role and responsibilities of the researcher, going beyond merely an approach (Bryman, 2004; Kohlbacher, 2006).

The purpose of content analysis is to identify the key features of the data text and uncover the underlying basis of participants' statements (Bloor and Wood, 2006). The analysis is executed by dividing the text into smaller segments and categorising them, a process known as coding (Krippendorff, 2018). This can help reveal patterns and themes that might not be immediately apparent when considering the data as a whole and facilitate more objective and systematic analysis (Neuendorf, 2017). Thus, systematic examination of specific segments of the data enables more accurate and reliable conclusions about the research questions being addressed. Content analysis is particularly suitable for exploratory research in an understudied area (Green and Thorogood, 2004) where it is employed to identify and report on common problems in the data text to more thoroughly understand the underlying meanings and themes presented in the data (Krippendorff, 2013). The analysis also aims to create concepts to explain the data obtained through the opinions of participants, and to reveal relations between these concepts (Drisko and Maschi, 2016; Mayring, 2004, 2015).

In content analysis, it is essential to combine similar data under certain codes and themes and to organise them in a way that readers can interpret more easily (Guba and Lincoln, 1994; Maxwell, 2008). Identification of themes related to the research problem by means of the descriptive and detailed data obtained facilitates the conversion of data into a meaningful and systematic structure (Neuman, 2014). Qualitative content analysis offers flexibility in the data collection process for investigative research; the collected data could be obtained through a range of methods, including verbal or visual sources, and it is important to consider the diversity of data collection when analysing and interpreting the data (Kondracki and Wellman, 2002). However, to conduct a content analysis, the data must be recorded in some form, whether orally, in written form, as graphics or as video (Schreier, 2012). The reported study involved consideration of a diversity of data, incorporating a range of data collection tools, including questionnaires, face-to-face and online interviews, and audio recordings, making it possible to gain valuable insights into the subject of twice-exceptionality and contribute to the body of knowledge in this area.

Potential drawbacks of qualitative content analysis include difficulty in identifying implicit or latent messages relevant to the research questions (Shava et al., 2021), and the time and

effort involved, with coding schemes potentially becoming complex (Kondracki et al., 2002). The lack of established analysis procedures and a complicated coding process can lead to confusion in implementing this method. Hence, at the outset of the reported study, the research questions were carefully developed, and the interview questions were subsequently constructed based on these research questions, which ensured that the data collected and analysed is directly relevant to the research objectives. To reduce the risk of missing relevant but implicit data, the use of multiple data sources described above was taken into consideration. Moreover, a detailed coding scheme that clearly defined the categories and codes was used to ensure that the data was accurately and consistently coded and to reduce the risk of confusion or inconsistency in the coding process.

Coding frames in the study were constructed, and content was organised into categories prior to key themes being identified in the data set obtained from the interviewed students. Descriptions, comments, and themes are illustrated through verbatims (direct quotations) (Bengston, 2016; Merriam and Grenier, 2019).

Content analysis is employed as a data analysis method in qualitative research to interpret data and as a prelude to the identification of themes (Krippendorff, 2013). For example, in this study, as students narrated their experiences, some instances they described were found to accord with the concept of masking mentioned in the literature, so this concept was used as a theme in the analysis. In addition, exam anxiety revealed in the data as a real-life experience of students was related to Foucault's (1977) theory of discipline and punishment, as introduced in the theoretical framework (chapter 2). This enabled the integration of practice with theory by establishing connections between the experiences and the theoretical concepts. A content analysis of interview transcripts was undertaken to examine the data derived from 2E students and teachers who may observe and witness 2E students experiencing difficulties inside the classroom (Polit and Beck, 2006).

4.6.3. Reflexive Thematic Analysis for Teachers' Data

Reflexive thematic analysis is a suitable method for qualitative studies that goes beyond identifying themes on the surface of texts, but also provides an in-depth understanding and incorporates the researcher's reflexive approach to the data and subjective experiences, which takes thematic analysis a step further (Braun and Clarke, 2019; Swain, 2018). Through

the reflexive thematic analysis method used for the teacher data, the researcher aimed to elucidate the relationship between the research subject and the data using both inductive and deductive approaches by evaluating the data comprehensively (Braun and Clarke, 2019). The reflexivity of the researcher in the data analysis towards the statements of the participants and the relational connection of the data with the theoretical framework and literature qualify the data analysis (Morrow, 2005).

The process of creating themes and codes from the researcher's own perspective signifies the inclusion of reflexive thinking into the analysis, thus, this can enrich the analysis by allowing the researcher to integrate subjective interpretations with an analytical perspective (Braun and Clarke, 2019; Braun et al., 2018; Gough and Madill, 2012). The reflexive thematic analysis provides researchers with flexibility in how they can epistemologically interpret the information based on the data and from which perspectives they can approach the findings (Braun and Clarke, 2019). For instance, in the current study, both inductive and deductive approaches were employed to utilise pre-determined codes that the data refers to, as well as to identify new insights and the participants' expressions that are open to interpretation, in line with the researcher's subjective perspective (Fereday and Muir-Cochrane, 2006). From this point of view, the reflexive thematic analysis method offers flexibility to the researcher in terms of which approaches the themes and codes can be shaped in accordance with the purpose of the research (Braun and Clarke, 2019).

The analysis of the teacher data was conducted according to the 6-step stages specified by Fereday and Muir-Cochrane (2006). Within these phases, once familiarised with the data, the pre-determined codes associated with the theoretical framework, the literature and the research questions were identified. The codes were assessed through the examination of transcripts from teacher interviews in order to ensure the accuracy and consistency of the coding process. In addition, peer debriefing sessions (Lincoln and Guba, 1985) provided valuable insights and helped identify any potential biases or inconsistencies in the coding approach. In the next stage, the codes that addressed the main points stated by the participants were summarised and the initial themes were formed. Following the summarisation of the deductive codes and determination of the themes, the inductively determined codes were formed and defined and the themes related to these codes were determined. All the codes obtained were synthesised and interconnected, subsequently, new

themes that are related to the research questions and theories were formed. Throughout the analysis, all themes and codes were checked, including previous stages, to ensure that they effectively represented the findings. Finally, the meaning of the themes was defined, and interpretations were made to maintain the integrity of the data, emphasise important points and provide a deeper understanding of the findings by accurately reflecting the participants' experiences (Fereday and Muir-Cochrane, 2006).

In addition to the above stages, Braun and Clarke (2006) also suggest a 6-stage thematic analysis as follows:

- Recognising the data
- Formulating preliminary codes
- Generating potential themes
- Reviewing the themes
- Conceptualising and labelling themes
- Preparing the final report (Braun and Clarke, 2006).

Although both methods involve similar steps to understand the data and identify themes, there are some differences. At the beginning of the coding process, Fereday and Muir-Cochrane's (2006) approach relies on pre-determined codes, whereas Braun and Clarke's (2006) approach is more inductive allowing for codes to be formulated based on the data. However, in both approaches, researchers are advised to analyse emerging themes based on the data and attempt to better understand these themes by drawing on literature and theoretical framework. This represents a combination of both inductive and deductive reasoning at the beginning or end of the analysis process.

In the process of interpreting and making sense of the data, the role of the researcher is to explore the evidence supporting the themes by identifying clues, patterns and relationships in the data (Braun and Clarke, 2019). The researcher's familiarity with the data, subjective knowledge, analytical skills and ability to make relevant inferences based on the objectives of the research are important (Braun and Clarke, 2006). Interpretations should be based on data that support and explain the themes that emerge in the analysis process (Morrow, 2005). The interpretations in this analysis clearly refer to the purpose of the research, the literature, the theoretical framework, and the research questions. Therefore, the researcher, while carefully

considering the data, shaped his interpretations by enriching the content of the themes that were revealed during the analysis process and supporting them with conceptual and theoretical explanations.

4.6.4. Validity and Reliability in Qualitative Analysis

The issue of validity and reliability remains as crucial in qualitative research as it does in quantitative data analysis (Golafshani, 2003). However, the primary goal in qualitative research is not to validate hypotheses or to generalise findings to a larger population but, rather, to provide a more detailed and nuanced understanding of a specific phenomenon (Creswell, 2007). Therefore, the criteria for evaluating the quality of qualitative research are different from those used in quantitative research. The implementation of established criteria, strategies, and techniques serves to enhance the applicability and verifiability of these two concepts in educational studies; these standards developed for validity and reliability provide a roadmap for researchers to ensure the trustworthiness and credibility of their findings (Noble and Smith, 2015).

Validity and reliability are interdependent constructs in a study, and the absence of one renders the other incomplete; that is, the mere achievement of reliability in a study is not sufficient, as it must be complemented and supported by the attainment of validity (Cohen, Manion and Morrison, 2007). Despite efforts to ensure validity and reliability in a study, some risks such as misinterpretation of the participants' views due to the subjectivity and prejudices of the researcher may still persist (Merriam, 2009). Although these risks cannot be fully mitigated, the methodology, findings, and interpretations of the research must be transparent and comprehensible in order to minimise these risks and render the study valid (Cohen, Manion and Morrison, 2007). Lincoln and Guba (1985) proposed the concept of trustworthiness, which encompasses both validity and reliability, as an overarching criterion for evaluating the quality of qualitative research and proposed four criteria of trustworthiness in qualitative research: credibility, transferability, dependability, and confirmability. While credibility and dependability are related to reliability, transferability and confirmability refer to the concept of validity. Trustworthiness, in a general sense, refers to the degree to which the researcher can have confidence in the authenticity and accuracy of the research findings.

Credibility is the extent to which the findings can be considered as accurate representations of the phenomenon being studied and to improve the credibility of qualitative research, prolonged engagement, persistent observation, and reflexivity are applied as methods (Lincoln and Guba, 1985). The fact that prejudices and subjective approaches are also discussed in this research is considered as an important step towards enhancing credibility by clearly addressing both objective and subjective approaches, which refer to reflexivity, in a transparent manner. Transferability, as a concept in qualitative research, is closely linked to external validity and aims to establish the generalisability of research findings beyond the specific context of the study (Lincoln and Guba, 1985; Nowell et al., 2017). Even though it may be possible to apply the findings of qualitative research to other similar contexts or populations, the primary goal of this type of research is not to generalise beyond the specific individuals or groups studied (Creswell and Poth, 2016). Dependability in qualitative research refers to the consistency and reproducibility of research findings and it is necessary to ensure that the results of a qualitative study can be trusted by others. To ensure dependability, researchers use detailed procedures for data collection and analysis and document the steps they take in conducting the research so that others can follow their methods (Lincoln and Guba, 1985; Maxwell, 1992). Additionally, member checking, auditing, and peer debriefing suggested by Lincoln and Guba (1985) can be used to ensure the credibility and confirmability of qualitative research, in which the researcher shares their findings with the participants and allows them to provide feedback. Also, these techniques allow other researchers to review and critique the research process, to ensure that the research findings are not biased. From this perspective, triangulation was employed in this study during data collection and the analysis process as a way to increase the study's validity and reliability; thus, the research is conducted in an appropriate and ethical manner (Thurmond, 2001).

One of the fundamental strategies for attaining validity and reliability in qualitative research is the utilisation of multiple methods for data collection and analysis. Triangulation, as suggested by Creswell (2013), which involves obtaining data from varied sources and using more than one analytical method, can increase the validity and reliability of a qualitative study. Emphasising the importance of methodological triangulation in qualitative research, Morse (1991) also suggests that researchers should use a combination of different data sources, methods, and perspectives to achieve a more comprehensive understanding of the

phenomenon under investigation. According to Cohen, Manion and Morrison (2011), the use of at least two different data collection methods is sufficient to permit triangulation in research. In this study, some teacher participants provided their input through a questionnaire, while others participated through an interview. This approach involved obtaining both oral and written statements from participant teachers; thus, the main purpose of this was to enable a comprehensive analysis of the collected data and enhance the trustworthiness of the study. By using various data collection tools and analytical methods, the researcher explores the same phenomenon of investigation from different approaches (Cohen, Manion and Morrison, 2011). All these processes relate to the concept of validity, which describes the extent to which the research design and methods used are appropriate to the research objectives and the results accurately represent the phenomenon. Thus, the transparency of the research design, method, and procedures to be followed is crucial when evaluating the validity of the findings (Crotty, 1998).

The consistency of results obtained through a research study over time or across different groups or contexts is referred to as reliability. In qualitative research, the aim is not to replicate the study but to ensure that the research process is trustworthy and can be replicated by others. Denzin and Lincoln (2011) propose that researchers should provide sufficient detail in documenting their research process to allow others to replicate the study, while Giorgi (2009) stresses that the researcher's ability to report their research process clearly and coherently is a crucial aspect of reliability. Demonstration of the credibility of research findings is an important aspect of trustworthiness in qualitative research, ensuring consistency between the researcher's interpretation of the data and the data itself. Patton (2002) explains that this can be achieved through the provision of in-depth descriptions of the data, which includes the incorporation of verbatim quotations and illustrative examples. This permits a thorough examination of the data, promoting the alignment of the researcher's interpretation with the data itself, and thus ensuring the authenticity of the research conclusions.

Ensuring the reliability and validity of qualitative research is a complex and ongoing process; however, in this study, the use of thick descriptions of the data (Geertz, 1973), consultation with supervisors in all areas of the research, transparency about the research design and

methods, and documentation of the research process in detail was implemented to meet the necessary conditions for reliability and validity.

4.6.5. Transferability in Qualitative Research

Transferability, also known as fittingness, can be regarded as the qualitative research counterpart to the concept of generalisation, which is a key objective in quantitative research and serves as a criterion for assessing the research's merit (Houser, 2015). While the terms generalisation and transferability may differ, they generally serve similar purposes and objectives, encompassing the assessment of external validity in research and understanding the extent to which findings can be generalised (Guba and Lincoln, 1982; Streubert and Carpenter, 2011). These concepts share the fundamental goal of evaluating the degree to which results can be applied beyond specific contexts or samples (Guba and Lincoln, 1982). That is, despite terminological distinctions, both terms are employed to ascertain the generalisability of research findings.

Qualitative research aims to understand the situation through the experiences shared by participants, and these experiences should be evaluated on an individual basis (O'Reilly and Parker, 2013). While qualitative studies do not seek generalisation in the traditional sense, when these experiences are thoroughly described and interpreted by the researcher, the findings can serve as a guiding framework for similar studies (Creswell, 2007; Sharts-Hopko, 2002). Hence, one way to establish transferability in qualitative research is to provide transparent and detailed descriptions of the sample selection process, participant characteristics, and the research environment (Guba and Lincoln, 1982). In this regard, this research provides a thorough depiction of the process of selecting the sample, participants' features and demographic details, research atmosphere, and encountered difficulties (e.g., pandemic conditions, recruitment of participants) throughout the data collection phase. The transparent portrayal of these aspects serves as a crucial roadmap, potentially guiding future studies.

Guba and Lincoln (1982) introduced the concept of trustworthiness as a primary requirement in qualitative research, assigning it a higher priority than concepts such as validity, reliability, and generalisability (Merriam and Tisdell, 2015). Transferability, which is considered one of the four criteria (credibility, dependability, confirmability, transferability) that ensure

trustworthiness, serves as a subsidiary condition contributing to its construction (Guba and Lincoln, 1982; Houser, 2015).

Given the intrinsic nature of qualitative studies, researchers should not limit their primary objective solely to the generalisation of findings in similar contexts; rather, it is imperative to adopt a more comprehensive and advanced perspective which acknowledges the intricacies and complexity of qualitative research methodologies (Gheondea-Eladi, 2014). Moreover, in the context of qualitative research, the concept of transferability should extend beyond its implications solely for study results (Bryman, 2008). For instance, in this study, by transparently elucidating how flexibility could be achieved in the face of adversities encountered during the research process, it is anticipated that this research will serve as a valuable resource for future studies conducted under similar conditions. The research, thus, claims to offer insights into the research process itself, including methodological approaches, rather than solely emphasising the generalisability of the results (Curtin and Fossey, 2007).

Onwuegbuzie and Leech (2009) propose that in qualitative research the concept of transferability extends beyond statistical generalisation and, instead, involves the potential for both theoretical generalisabilities, where findings can be applied to broader theoretical frameworks and case-to-case transfer where insights from one specific case can inform similar cases. From this perspective, qualitative research should, therefore, be approached holistically, considering not only the outcome-oriented aspects but also the data collection process, accessibility of participants, theoretical framework, and the various limitations and advantages inherent in the study (Gheondea-Eladi, 2014). When the concept of generalisability is considered in the context of qualitative research, it is essential to recognise the uniqueness of each individual experience and the contextual factors that shape it (O'Reilly and Parker, 2013). Hence, transferability holds relevance and applicability throughout all stages of the research process, transcending its significance beyond a specific phase or aspect (e.g., findings) (Creswell, 2007). Bryman (2008) and Gheondea-Eladi (2014) suggest that in a qualitative study, transferability of the key components of the research such as sampling can be achieved, provided that validity and reliability are effectively addressed. As in this study, employing a purposive sampling method allows for the establishment of transferability in terms of participant criteria, thereby enhancing the potential for generalisability in comparable research contexts (Gheondea-Eladi, 2014).

In the reported study, the implementation of triangulation techniques ensured validity and reliability, while emphasising the concept of trustworthiness as discussed in the section on 'Validity and Reliability in Qualitative Studies'. Consequently, transferability, which is an integral part of establishing trustworthiness, was achievable within this research as this study underscores the adaptability and transparency of the data collection process, including the sampling method selected within the scope of the study, thereby enhancing its applicability to future scholarly investigations.

4.7. Ethical Considerations

All participants included in the study were informed of the content, purpose, and methods of the research; thus, they learnt how they could contribute to the study and how they would play a key role in the study conducted. Both parents and their children were asked whether the students would participate in the research through a consent form to be signed prior to data collection. Interview forms with questions related to any difficulties that the students may face, prepared in an appropriate language, were distributed to avoid labelling the students who participated in the study. According to the labelling theory of Becker (2018), labelling students with special needs might result in a self-fulfilling prophecy whereby they and their teachers come to have low expectations of their performance in academic activities. Socially negative situations such as discrimination, feeling pressured and isolation can occur as a result of being labelled (Link and Phelan, 2001). In the data collection process, specific criteria or characteristics that define the group of 2E were emphasised without explicitly using the term '2E'. Instead of labelling the students as 2E, their individual strengths and challenges that make them a suitable group for this study were highlighted. The information sheets for the participants explain how these students can possess exceptional abilities in certain areas while also facing specific difficulties. Thus, the research aimed to explore the distinctive qualities and experiences of these students without relying on a specific label.

Teachers and students, as participants, were informed of their right to withdraw from the study prior to analysis and during interviews. Names of participants do not appear on any documentation other than a separately and securely stored list allowing the researcher to identify participants. Participants were referred to by a fictionalised name and participation

in the study was on a purely voluntary basis. Lastly, the data collected was only used for the purpose of the research (British Education Research Association [BERA], 2018).

In line with the safeguarding policy of Plymouth University, if, for example, a student disclosed information that implied a safeguarding issue such as harm, abuse, and radicalisation, the researcher was aware of his duty of care to report the incident to relevant parties in university security in the event of any emergency and local safeguarding officers in non-emergency cases. Additionally, the University Research Ethics and Integrity Committee (UREIC) is also responsible for any ethical considerations and safeguarding issues in the scope of research conducted in the name of the university (University of Plymouth Safeguarding Policy, 2020). In line with the ethical process at the University of Plymouth, the researcher received ethics approval from the university ethics committee to which the researcher submitted research documents, including a data management plan and risk assessment form shown in Appendix II and Appendix III respectively.

4.8. Chapter Summary

This chapter outlined the methodology employed in the study, commencing with a discussion of the onto-epistemological positionality of the researcher. The research design was characterised as qualitative exploratory research and the interpretivist paradigm was adopted to provide a framework about how to explore the experiences of 2E students and teachers. The sampling process involved purposive sampling of 2E students and teachers, considering the challenges posed by the COVID-19 pandemic. Face-to-face and virtual interviews and questionnaire forms were used as data collection tools, adapting to the circumstances, preferences, and accessibility of participants (Creswell, 2013). The participants consisted of five 2E students selected based on diverse criteria, including age and educational level, and seven teachers who have previously taught, or currently teach 2E students. The ethical issues were carefully managed and addressed in the research process, regarding students under the age of 18. The content analysis method was applied to student data, focusing on extracting meaning through coding and categorisation (Bryman, 2004), while reflexive thematic analysis was employed for teacher data, incorporating the researcher's reflexivity and subjective experiences into the analysis (Braun and Clarke, 2019). This method allowed for a deeper

understanding of the relationship between the research subject and the data, combining both inductive and deductive reasoning (Fereday and Muir-Cochrane, 2006).

Using different data collection tools, Lincoln and Guba's (1985) reliability criteria and documentation transparency were employed to ensure validity and reliability. This qualitative research also emphasised transferability considering not only the outcome-focused elements but also the entire data collection process, participant accessibility, theoretical framework, and acknowledging the inherent limitations (e.g., pandemic conditions) and advantages of the study (Gheondea-Eladi, 2014).

CHAPTER 5. FINDINGS AND DISCUSSION

5.1. Introduction

The findings of the research reflect both the advantageous and disadvantageous experiences of 2E students in their social and academic lives. The findings also encompass the experiences of teachers in their interactions with 2E students within educational environments. The students shared their experiences, from primary school to their current educational level, including secondary school and higher education, while the teachers provided responses based on their professional experiences.

The analysed data was gathered through a combination of semi-structured interviews and questionnaire forms, with responses from 5 students and 7 teachers. The collected data for students was analysed using content analysis, which involved several stages including coding and theme development (Neuman, 2014). Initially, a large number of codes and themes were generated, which were subsequently refined and reduced to ensure clarity and relevance (Maxwell, 2008). The development of codes and themes followed a hybrid approach, combining deductive and inductive reasoning. Codes and themes were initially guided by the research questions, literature review and the theoretical framework as integral to a deductive approach. However, as unexpected data and new codes were identified during the analysis process, an inductive perspective was also employed to allow for the incorporation of novel insights (Fereday and Muir-Cochrane, 2006).

Although the findings section presents the results separately for students and teachers, highlighting the distinct experiences of each group, a holistic and comprehensive approach will be adopted to compare the findings. This allows for a thorough examination of the similarities and differences in their experiences, facilitating a deeper understanding of the overall implications of twice-exceptionality and providing a more comprehensive analysis of the topic. To ensure a systematic presentation, tables were constructed, related to the research questions and the semi-structured questions addressed to the participants and the corresponding sub-questions; this approach allows for a clear organisation and connection of the findings and research objectives, facilitating a coherent understanding of the data (Cloutier and Ravasi, 2021). Moreover, verbatims (direct quotations) from participants were

carefully selected and integrated into the findings section to provide concrete examples that substantiate the identified codes and themes (Corden and Sainsbury, 2006).

While the study findings are consistent with the existing literature in certain aspects, they also contain unexpected insights that contribute to the body of knowledge in the field. These unforeseen findings challenge conventional assumptions, adding a new layer of understanding to the complex dynamics of disabilities and abilities. For instance, a notable finding, derived from one participant's experience, was the perceived relationship between their ADHD condition and heightened creativity. This suggests the importance of acknowledging the complexity and multiplicity of individuals' experiences in contrast to dual exceptionality binarisation, emphasising that individuals with ADHD can possess a range of abilities and challenges (Deleuze and Guattari, 1987). That is, by understanding the intricate interplay between ADHD and creativity, it can be moved away from simplistic categorisations, appreciating unique perspectives and strengths that individuals with ADHD can bring. Ultimately, a more inclusive and comprehensive understanding of human cognition could be fostered. In addition to the prevailing binarised understanding of disabilities and abilities and the associated risk of one obscuring or masking the other (Assouline et al., 2008), this finding points to the potential of 2E individuals to harness their unique attributes to achieve unexpected outcomes. The experiences shared by 2E students emphasise the importance of creating inclusive and supportive environments that recognise their exceptional abilities while addressing their individual needs. Furthermore, the insights from teachers that are presented in the next section underscore the need for professional development and collaboration to better serve the unique needs of 2E students within educational settings.

By considering the sociocultural theory, alongside the post-structuralist concepts and approaches, outlined in the adopted theoretical framework (Chapter 2), the researcher also seeks to provide a deeper understanding of the practical experiences described by participants. This is achieved through an exploration of how these experiences can be theoretically conceptualised, aiming to bridge the gap between theory and practice and provide a framework for interpreting the findings within a broader theoretical context. Thus, this approach is intended to ensure a comprehensive analysis of the empirical data but also situates the findings within a theoretical framework that permits a more nuanced interpretation. Ultimately, this type of analytical process can assist in elucidating underlying

mechanisms, relationships, and implications of the observed phenomena, and contributes to the development and refinement of existing theoretical perspectives. The concept of difference not only encompasses individuals' exceptional abilities or challenges but also entails the complex interactions of these characteristics and their impact on individuals' place and participation in society (Allan, 2008). Therefore, when examining the concept of difference within the context of 2E individuals, it requires a broad perspective that includes not only their abilities and needs but also social factors, emphasising the necessity of an inclusive educational environment. For instance, the concept of 'unique needs' found in the literature, conceptual framework, and especially in teacher data, will be discussed in the context of child-centeredness, as a pedagogic strategy (Georgeson et al., 2015; Harris et al., 2013). Additionally, the impact of this concept on 2E individuals will also be addressed as a subject of interest in this section. Furthermore, the concept of 'paradoxical difference', outlined in Chapter 1 in relation to 2E, will be elaborated with reference to the data.

Academic achievement is a key theme arising in the analysis of student and teacher data, prompting a focus on how individuals and schools define concepts such as potential, performance, ability, and achievement. In addition to the concept of potential, as it is used by students, non-recognition of the particular challenges and obstacles faced by 2E individuals poses a difficulty in terms of acknowledging the specificity of 2E. Although the concept of potential here is used by the student participants to encompass various abilities and skills beyond academic achievement, it is still observed that they feel the need to evaluate themselves on the basis of traditional criteria such as exam success. The potentials of 2E individuals should therefore be re-defined, considering both their exceptional abilities and these obstacles, distinct from traditional academic achievement criteria. In this context, Foucault's (1982) theorising on power relations can provide a perspective, discussing how power shapes social relationships, identities, and criteria for success, including how individuals define success or disability and, in turn, the impact of this on individuals' realisation of their potential. Individuals may feel compelled to conform to a certain performance standard and organise the learning process according to these norms within the framework of the neoliberal education system (Ball, 2012; Demir and Done, 2022). In this context, academic achievement criteria can be used to assess the potential of students and to promote competition among students and schools. Accordingly, it may be argued that a

further interpretation of the concept of masking includes the risk of obscuring non-academic abilities or talents through standardisation based on measurable performance data which requires evaluating students, teachers, and schools based on specific criteria.

5.2. Dis/abilities, Additional Conditions and Interests of 2E Students

Table 5.2.1. displays the disabilities and additional conditions of the 2E students, including strengths beyond academic achievement (strong memory). The table aims to clarify the various challenges and additional conditions faced by these students, assisting in identifying their educational needs.

Table 5.2.1. Disabilities constituting 2E (in addition to high potential) and additional conditions of the students

Students	Disabilities	Additional Conditions
Ashley	Autism, Asperger`s syndrome, dyspraxia	-
Mia	Autism	Sleep problem, strong memory
Oliver	Autism, Asperger`s Syndrome, ADHD	-
Sophia	ADHD	Eating disorder, forgetfulness depression
Amelia	Dyslexia, Dyspraxia	-

According to Table 5.2.1., the students have various disabilities such as autism, Asperger's syndrome, ADHD, dyslexia, dyspraxia, and other exceptionalities, including sleep disorder, eating disorder, depression, and forgetfulness. Some students (Ashley, Oliver, Amelia) have more than one disability and additional conditions. This information plays an important role in determining the educational and support needs of these students and in developing individualised strategies.

Ashley, in addition to exhibiting high potential in Mathematics and Science, has been diagnosed with autism, Asperger's syndrome, and dyspraxia. The diagnosis of Asperger's syndrome was made during her final year of primary school, highlighting the importance of early identification and intervention. Due to the presence of dyspraxia, Ashley has always asked the teachers' permission to use a laptop as an accommodation to support her learning needs. The collaboration between Ashley, her parents, and the school demonstrates the significance of individualised support and the provision of reasonable adjustments to accommodate specific needs and permit the development of an identified area of potential. Ashley's parent also attended the Zoom interview with Ashley and contributed to the data. Below are some verbatims from the interview with Ashley and her parent:

'As soon as we got the diagnosis of dyspraxia, Ashley made it very clear to all the teachers that Ashley had to have a use of a laptop at all times'. (Ashley's parent)

'And I was diagnosed with Asperger's in primary school'. (Ashley, High School)

'When Ashley first started at a secondary school in London, the SENCO wasn't very helpful, seemed a bit out of their depth really [] After her autism diagnosis in the last year of primary school, I needed to really push for some proper help for Ashley. But the SENCO you have now is really good'. (Ashley's parent)

Mia was diagnosed with autism at the age of 10 and has a strong memory as well as giftedness in Maths and Science. She has also reported experiencing a sleep problem and receiving support for it outside of school. Mia demonstrated her self-confidence and self-awareness, expressing areas that she is good at.

'I used to sleep maybe three or four hours? Now, maybe six, seven, sometimes eight. I didn't really, I got very good at adjusting to it. I didn't need much sleep. There's some company that works with sleep-related matters, but I don't know what they're called'. (Mia, Grammar High School)

'Reasonably good at maths and okay, science, and I climb quite well. I've good memory I can memorise things'. (Mia, Grammar High School)

Oliver is a 2E individual who is gifted in Maths and Science and has a high intelligence (IQ) score after being tested by an educational psychiatrist at CMHS (Child Mental Health

Services). At the age of 19, he was formally diagnosed with adult ADHD and Asperger's Syndrome by a specialised psychiatrist.

'I got a high IQ from an IQ test I did with an educational psychiatrist. Yeah, but yeah, she said she thought I had Asperger's. But I didn't get it formally diagnosed until I was like 19 when I was able to afford to see a private psychiatrist myself and get it diagnosed. And they gave me a diagnosis again, for adult ADHD at that point. So that's when I started getting support real support for my problems when I was like, 19'. (Oliver, Undergraduate)

This points out a problem that Oliver is experiencing due to difficulties in accessing accurate and early diagnosis and appropriate intervention efforts. As his conditions are not recognised or supported due to financial constraints and limitations in accessing diagnosis at an early stage, the importance of early diagnosis, sensitivity and awareness of teachers and counselling is understood, as well as the importance of financial support.

Sophia is a 2E individual diagnosed with adult ADHD who exhibits talent in art and design. She has also reported struggling with conditions such as depression, an eating disorder, and forgetfulness after starting university. During her depression, Sophia was diagnosed with ADHD, and it was at this time that she simultaneously developed an eating disorder.

'When I went to uni, it's actually like, it's kind of like, I kind of get in some depression stuff. So, after that, they kind of figured out that I had ADHD and everything kind of like gets shaped, like it's more [] Yeah. I was in depression. I kind of I started feeling really bad. Like my social life went really bad. Like, I kind of closed everything. And I started to having eating disorders also. I also, I am forgetting so much like I'm changing subjects quickly. I cannot manage long forms of conservation, talking'. (Sophia, Master's Degree)

Amelia is a 2E student with dyslexia and dyspraxia who is also talented in table tennis. Although she possesses remarkable talent, her disabilities have posed some difficulties for her.

'We're having dyslexia and playing table tennis, it was a bit hard, it was hard [] Yes. dyspraxia, dyslexia is an earlier syndrome, and I've got my report at home. But yeah, I've got all of them. And I don't know if it was because of my dyspraxia or what it was, but it's really annoying. For example, for my dyspraxia is about, you know, what it is, a body coordination one, so you

bump into things quite a lot. So obviously, that's like when I'm feeling really stressed. I noticed that I'm bumping into things a lot because I know the reaction it gives me, not as a bad thing bumping into things as long as you don't hurt yourself. But, but it's like connecting between the brain and the dyspraxia. But like with a dyslexia. Like my words, like I start speaking fast, I've noticed when I get stressed, or when I'm stressed of uni, my words speak fast. Or it comes to a point where I don't want to write anything on paper. Because my writing is all, is really bad. Like my writing is awful when I'm stressed`. (Amelia, Master`s Degree)

The descriptive data underlines the importance of recognising and addressing the diverse needs of 2E students to provide them with appropriate support and opportunities for growth. Embracing the diverse range of abilities and challenges among 2E students enables the implementation of tailored strategies and interventions that cater to their specific needs. However, this may be challenging in an experience of delayed diagnosis as evidenced by Oliver`s statements, and therefore the difficulties associated with delayed diagnosis or financial issues should be acknowledged in real-life experiences. This approach fosters not only academic growth but also personal development, enabling 2E students to contribute their unique perspectives in the broader educational community.

From a theoretical perspective, it could be argued that the high potential, multiple disabilities, and additional conditions of each student, as shown in Table 5.2.1, and changes through time in terms of acquiring formal diagnoses as in Oliver's case, are suggestive of Deleuze and Guattari's (1987) concept of multiple and fluid identities rather than singular and fixed identities. Secondary conditions produce additional identities, for instance, the insomniac (Mia) and anorexic (Sophia), compounding such complexity. Thus, the additional circumstances can create new identities and diverse ways for these students to express themselves, which may further complicate their identities and life experiences as they strive to manage the challenges. Accordingly, the students' multiple exceptionalities (disability, additional conditions) can be considered as a transgression of normative social expectations (Foucault, 1977) that serves to highlight the restrictive nature of social labels. That is, the exceptionalities can be regarded as complicating societal acceptance in terms of diversity and inclusivity. All of the conditions that the students have, in this sense, can be interconnected from a rhizomatic perspective (Deleuze and Guattari, 1987), which challenges the binarised understanding of 2E implicit in the version of masking which posits the prioritisation of either

the disability or the ability or high potential such that one obscures the other (Assouline et al., 2006; Assouline et al., 2008). A rhizomatic perspective rejects unilinear causality or the concept of an originary point and, instead, implies multiplicity as the relationships between disabilities and other conditions are non-hierarchical and complexly interactive; in a rhizomatic structure, there is no hierarchical top-down order or a specific or privileged origin (Deleuze and Guattari, 1987). The relationships between disabilities, additional conditions, and other factors can therefore be viewed as multi-faceted and intricately interconnected. This absence of hierarchical ranking or prioritisation can be applied to thinking about twice-exceptionality whereby the disabilities and additional conditions of students co-exist rather than one being privileged over the other or obscuring the other (Roy, 2003). This suggestion also resonates with the flat ontology proposed by Deleuze and Guattari (1987) as disabilities, diagnosed conditions and abilities are equi-valent. Furthermore, the possibility of exclusion and discrimination that the 2E learners may face can be explained by Deleuze and Guattari's notion of normative effects on societal structures concerning disabilities and other exceptionalities (Allan, 2008). To mitigate the impact of these normative considerations, it is crucial to raise social awareness, question stereotypes, and enhance equal opportunities by viewing students' difficulties and disabilities from an inclusion and diversity perspective or an acceptance of difference (Deleuze, 2004).

Table 5.2.2. below highlights the individual differences and multidimensional nature of students' interests and abilities, enabling a better understanding of their priorities and potentials in the educational process and leisure time activities. Additionally, by evaluating the relationship, similarities, and differences between interest and ability areas, an overall profile of the students can be derived. The findings of this analysis can thus serve as a valuable guide in developing suitable and effective educational programmes for students. Educational programmes can be designed more specifically, considering students' specific interests and strengths. For example, social clubs or activities can be developed as extracurricular according to the specific interests of the students revealed in the analysis results and the content of these extracurricular activities can be tailored based on students' needs. After identifying the potential exceptionalities and additional conditions of students, different teaching methods can be developed in educational programmes, and effective learning environments emphasising the diversity of learning experiences can be created. In line with this, teacher

competencies that can respond to different abilities, needs, and areas of interest can be reviewed, and additional training can be provided to them.

The responses of the students to the question about their interests and abilities are as follows:

Table 5.2.2. Interest and ability areas of the students

Students	Areas of Ability	Areas of Interest
Ashley	Maths and Science	Maths, Science and Technology
Mia	Maths and Science	Maths, Science, Climbing and Space Science
Oliver	Maths and Science	Maths, Science, Art and Tennis
Sophia	Art and Design	History, Geography, Volleyball, Yoga, Ice Skating and Art
Amelia	Sport	Swimming and Table Tennis

Table 5.2.2. shows a variety of interests and ability areas among the students with the highest level of interest areas observed in Mathematics and Science; three students, Ashley, Mia, and Oliver, report an inclination towards these subjects. These students also exhibit corresponding abilities in both Mathematics and Science; there is a noticeable alignment between the interest and ability areas for these students. Nevertheless, it should be noted that there can be variations between students' areas of ability and their areas of interest; for instance, while Sophia demonstrates high potential in the field of Art and Design, she also expresses interest in subjects such as History, Geography, and other sports. In addition, Oliver, who is gifted in Mathematics and Science, displays an interest in Art. Other interest areas include sports and physical activities such as tennis, volleyball, climbing, yoga, ice skating, and swimming. This indicates that the majority of the students in the student sample have an interest in sports and enjoy participating in various activities.

Since Table 5.2.2. reflects the different interests and abilities of each student, Gardner's (1983) theory of multiple intelligences, can be considered here. This theory posits that human

intelligence cannot be confined to a single domain, implying recognition of diversity and difference. Accordingly, the students appear to be talented in the mathematical, visual, naturalistic, and kinaesthetic domains of Gardner's (1983) multiple intelligences theory. However, it is also evident that there are variations between students' areas of talent and their areas of interest. While these differences may not be fully explained by a single theory, it can be hypothesised that areas of interest might be associated with factors such as personality traits, motivations, cultural influences, and social experiences (Bøttcher and Dammeyer, 2012; Rogoff, 1990). Considering these external factors, Vygotsky's (1978) sociocultural theory may also contribute to understanding the variations in students' areas of interest and abilities. In other words, when explaining differences in students' areas of interest and abilities, it is important to consider not only innate intelligence but also social interactions and cultural contexts (Bøttcher and Dammeyer, 2012). Sociocultural theory suggests that social interactions also impact an individual's cognitive development, playing a role in the emergence of the interests and other cognitive domains presented in the table above (Rogoff, 1990). Combining Gardner's (1983) theory of multiple intelligences and Vygotsky's (1978) sociocultural theory could be anticipated to provide a more comprehensive understanding of 2E learners' ability and interest areas, suggesting that the individuals' interests and abilities result from a complex interplay of factors and highlighting the importance of diversifying educational and instructional methods to accommodate these differences (Bøttcher and Dammeyer, 2012).

While Gardner's theory has led to important discussions about the diversity of human abilities and the need for varied instructional approaches, it is essential to critically evaluate its limitations and consider alternative perspectives to develop a comprehensive understanding of intelligence and education. Accordingly, Waterhouse (2006) criticised Gardner's theory as there is a lack of empirical evidence to support the existence of distinct and independent intelligence, arguing that the evidence provided for the theory is often subjective and lacks the empirical rigour necessary to validate the theory. Waterhouse (2006) also suggests that the theory also relies heavily on anecdotal observations and case studies rather than rigorous scientific research. However, Gardner (1983, 1999) rejects a singular and dominant area of intelligence, emphasising that intelligence is multidimensional and cannot be summarised by a single criterion. This underscores the importance of promoting comprehensive approaches

and strategies that acknowledge and support specific learning difficulties as well as exceptional abilities of gifted students. In addition, Gagné (2009, 2020) argues that giftedness is necessary for the development of talent and that with the systematic development of giftedness, talent also evolves into a series of skills in the fields of art, sport, science and mathematics. Accordingly, despite the criticisms above, the domains of intelligence identified by Gardner (1999) can provide a conceptual structure for understanding how talents can be systematically developed and transformed into specialised skills, as outlined in Gagné's (2009) differentiated model of giftedness and talent.

5.3. Findings on the Social and Academic Experiences of 2E Students

The opinions expressed on the positive and negative experiences of 2E students in their academic and social lives are categorised in Table 5.3.1.

Table 5.3.1. The positive and negative experiences of 2E students in their academic and social lives

Categories	Codes
Social-emotional conditions	Having a small group of friends (Amelia, Oliver, Mia, Sophia)
	Bullying (Oliver, Amelia)
	Isolation (Oliver, Amelia)
	Challenges in expressing and regulating emotions (Ashley, Oliver)
	Depression (Sophia)
	Communication challenges (Ashley, Mia, Sophia, Oliver)
	Lack of self-confidence and self-esteem (Amelia, Oliver)
	Difficulties in meeting new people (Ashley, Mia, Oliver)

	Standing out in social and academic life with talent (Ashley, Oliver, Amelia, Sophia, Mia)
High academic performance skills	High academic performance in areas of talent (Oliver, Mia, Ashley)
	Creativity (Sophia, Ashley)
	Crisis management (Sophia, Oliver, Mia)
Academic challenges	Examination anxiety and stress (Ashley, Amelia, Sophia)
	Reading and writing (Amelia, Sophia, Mia)
	Academic underachievement (Sophia, Amelia)
	Concentration and distraction issues (Sophia, Oliver, Amelia)
	Difficulties with organising skills and time management (Sophia, Oliver, Amelia, Ashley)

The table presented above provides an analysis of the positive and negative experiences of 2E students in their academic and social life. Various categories and codes are highlighted to elucidate the unique challenges and strengths of these students, and the categories are therefore organised into social and emotional conditions, high academic performance skills and academic challenges.

Table 5.3.1. shows that among the students the majority of challenges are generally related to social interaction and emotional expression. Communication difficulties, struggles with meeting new people, and challenges in expressing and regulating emotions are common issues experienced by a majority of students, including Ashley, Mia, Sophia, and Oliver. The incidents of bullying and isolation experienced by Amelia and Oliver further highlight how these students' self-confidence can be negatively affected, leading to difficulties in social interaction and subsequent negative experiences. Additionally, Sophia's disclosure of experiencing depression and developing an eating disorder at the university demonstrates

that existing negative situations can potentially contribute to different adverse outcomes. It is evident that there are social and emotional difficulties among students, and some students require support in these areas. The importance of friendship and the development of communication skills are crucial in addressing these challenges (King, 2005; Reis et al., 1997). Furthermore, showcasing their talents in both social and academic aspects appears to be a common source of motivation for these students. Taking into consideration the students' perspectives across their entire educational journey, including secondary school, these are some of their expressed viewpoints grouped under the category of social emotional conditions:

'Friend side, since little, I always like to have a small group of friends. I don't like to have a big group of friends. For some reason, I find it a little bit annoying'. (Amelia, Master's Degree)

'So, I just used to go and get more and more bullied by him. But I just ended up basically bullying him back, like picking up his pencil case, throwing it across the room, and challenging him to fight'. (Oliver, Undergraduate)

'You know, like call name calling, like, oh, you're stupid, or you're not gonna do anything in life. You're gonna work in McDonald's, or you're not going to be able to be, you know, a professional because of this thing. Well, affects me really badly. Like, obviously, emotionally, I'll think I'll be stupid. I wouldn't think I'll be intelligent. I didn't really think oh, okay, I'm just gonna work in a small job. And I'm not gonna amount to anything. So yeah, it does affect you, especially when the circle of people around you are very negative and horrible. Yeah'. (Amelia, Master's Degree)

'Yeah. And also, I think, you know, emotional dis-regulation and stuff helps with not being able to work either. That's, that's not very helpful when you when you don't feel very well. So yeah, yeah. So, I think it does try to make challenges Yeah, like I said, the emotional regulation. Again, I don't know what that's got to do. People with Asperger's and ADHD seem to get really angry lots of time'. (Oliver, Undergraduate)

'One of the weaknesses I feel like I do find it hard to talk about my emotions with just about anyone which means it could be quite difficult to tell how I'm feeling at any one time'. (Ashley, High School)

'When I went to uni, it's actually like, it's kind of like, I kind of get in some depression stuff. So, after that, they kind of figured out that I had ADHD and everything kind of like gets shaped like it's more [] And I started to having eating disorders also. I also, I am forgetting so much like I'm changing subjects quickly. I cannot manage long forms of conservation, talking'. (Sophia, Master`s Degree)

'I don't really get on with children. But it's not at school. It's irritating. Anything else that involves people were on my own age really'. (Mia, Grammar High School)

'In my first high school, there wasn't a lot of support at all for me, which also didn't help because it put my self-esteem down, put my grades to go down, like my marks or my assignments to go down. Yeah'. (Amelia, Master`s Degree)

'I am scared of being around new people a lot'. (Mia, Grammar High School)

'Well, as usual, you're not the most special, the most talented. So, like, people think you're good at what you do. And people are impressed'. (Oliver, Undergraduate)

In relation to academic skills, most of the students stated that they were able to demonstrate high academic skills despite facing disadvantages. Sophia specifically attributed her increased creativity to her ADHD, although the transition speed in performing different tasks may be perceived as a negative aspect. Another notable feature related to the reported academic abilities is their crisis management skills, which reflect their problem-solving approach. For example:

'Yeah so, I would put one advantage being that someone's gonna find it easier in like the academic stuff. I'm quite good at that kind of part of school, especially stuff I'm quite interested in math science and computer science [] I can do quite well on the subjects'. (Ashley, High School)

'My friend was always telling me I am clever, and I am making things in a practical way and quickly, I find a solution. And like they say, I'm really good at like crisis resolution. I mean, I think like, the creativity and ADHD work together, for drawing, like creativity makes drawing actually, or maybe even like, I fail. Like, sometimes like, I feel like I need to draw. And I draw like, 24 hours'. (Sophia, Master`s Degree)

Ashley, Amelia, and Sophia expressed difficulties related to exam anxiety and stress, while Amelia, Sophia, and Mia reported struggling with reading and writing skills. Considering that Amelia is a dyslexic learner, it might be expected that she would face challenges in this area. Sophia and Amelia attribute their academic underachievement to their disadvantaged circumstances and the less tolerant behaviour of people around them. Sophia, Oliver, and Amelia experience difficulties with concentration and attention. It is reasonable to consider that the attention deficit and struggles with organisation and concentration experienced by Sophia and Oliver are associated with their ADHD. Amelia, on the other hand, expressed that she faces these problems due to her dyslexia. The table 5.3.1. also points out that many students are grappling with organisational skills and time management.

‘Sometimes I can find myself a bit more susceptible to kind of, kind of, stress or anxiety a bit more. Which means sometimes, like, especially exams and deadlines and that kind of stuff, even though I tend to be a little bit better with them, they can still stress me out more’. (Ashley, High School)

‘Like my words, like I start speaking fast, I’ve noticed when I get stressed, or when I’m stressed of uni, my words speak fast. Or it comes to a point where I don’t want to write anything on paper. Because my writing is all, is really bad. Like my writing is awful when I’m stressed’. (Amelia, Master’s Degree)

‘I remember during my high school time, I was faced with little academic challenges, especially like, I actually, I was able to solve the problems; books, like, I can give my whole focus, but like every exam, every quiz, I was doing constantly mistakes, like, simple question, like two plus two is four, but I’m writing five. That’s kind of thing’. (Sophia, Master’s Degree)

‘So, my idea, my ability to comprehend the work, and the ideas behind it, is there. I can comprehend the work; I can comprehend all the theory behind it. And I could write up a really good piece of work, but my ability to organise myself, discipline myself, is not there. So, because I can’t discipline myself or very well organise myself very well, I can’t do the work that I’m actually very able to do. So yeah’. (Oliver, Undergraduate)

In Table 5.3.1, students' social and academic experiences are reflected in contradictory combinations. For example, the experiences in the table show that students face social and emotional challenges such as bullying, isolation and lack of self-confidence, as negative

experiences. Foucault's (1977, 1982) ideas about power relations and disciplinary mechanisms suggest that these experiences are influenced by social structures and institutions and supported by control mechanisms that enforce individuals to conform to certain societal norms (Jardine, 2000). Educational institutions and social norms can place students in certain groups and induce feelings of being excluded (Done and Andrews, 2020). Foucault (1977), in this regard, emphasises the existence of disciplinary mechanisms that direct individuals towards conforming to the norms and highlights the struggle for individuals to resist and express their authenticity. As a result of disciplinary mechanisms, individuals who are controlled and classified through exams may feel under pressure to comply with the rules of the exam system, to succeed and to perform according to norms imposed on individuals by society and educational cultures and the criteria and evaluations that determine success. In this process, individuals' self-confidence and sense of worth may be affected as they are categorised and assessed through exams (Allan, 1999, 2008).

It is presumed that there are standardised criteria such as exams or in-school assessments of achievement, although students are not explicit about what the criteria for high achievement are. Since Foucault's (1982) theory of power relations emphasises that success criteria are determined by social norms and power, it is important to discuss how students define and perceive 'high potential,' and whether and how the students' definitions and perceptions can be related to social norms. As illustrated in Table 5.3.1., the reported high potential performance of 2E individuals in areas such as creative thinking can help them to deviate from socially accepted academic norms and express their unique talents. However, their special needs may compel them to conform to dominant values or norms. Social interaction difficulties, lack of self-confidence, and exam anxiety experiences may be related to the expectations associated with the norms imposed both socially and within educational institutions, leading to 2E individuals being steered towards choices and decisions that conform to societal norms when they stand out on account of their academic excellence or special needs (Allan, 2008).

5.4. Strengths and Weaknesses of 2E Students

Table 5.4.1. below shows the strengths and weaknesses of the students.

Table 5.4.1. Strengths and weaknesses of 2E students

Students	Strengths	Weaknesses
Ashley	High potential and academic achievement, analytic thinking	Talking about emotions, organising skills, meeting new people, unable to manage conversations, overthinking
Mia	High potential and academic achievement, strong memory	Meeting new people, difficulty in reading and writing
Oliver	High potential and academic achievement, high motivation	Organising skills, meeting new people, attention deficit, unable to manage conversations, difficulty in emotion regulation
Sophia	Detail-oriented	Organising skills, difficulty in reading and writing, attention deficit, unable to manage conversations, forgetfulness
Amelia	High motivation, detail-oriented	Organising skills, difficulty in reading and writing, lack of self-esteem and self-confidence, overthinking

It could be inferred from the table above that the strengths and weaknesses of the students stem from their high potential and disadvantaged circumstances (e.g., the relation between high potential and analytical thinking or the relation between autism and meeting new people). However, it is important to consider that some weaknesses may have different underlying causes. Although Oliver, Mia, and Ashley face difficulties in their educational environment, it is observed that they are successful in the academic field by fully utilising their potential. Mia's strong memory and Ashley's analytical thinking skills emphasise that students

can also have unique strengths. In terms of weaknesses, Table 5.4.1. shows that there are common challenges among the students, such as organising skills, difficulties in reading and writing, and issues related to social interactions. However, some students (Amelia, Oliver, and Sophia) also have additional weaknesses, ranging from forgetfulness to overthinking and lack of self-esteem, which are not commonly found in other participant students. By addressing these weaknesses and providing appropriate support, it is possible to enhance the students' overall academic performance and personal growth.

'I'd also think my sense would be that, I could be quite, I'm kind of analytical like the kind of the maths and scientists' sciences come to me quite easily and it means, again, a lot of academia can be smoother without being difficult'. (Ashley, High School)

'Strengths, I would say, being able to look at every detail. Yeah, so not just within sports, or uni work, or anything like that, but like at people as well. So, instead of just looking at them sitting on a chair, you're looking at every detail within, again, that's me. So, I guess it's just looking at every detail and understanding more if you get what I mean'. (Amelia, Master's Degree)

'I tend to kind of, a lot of time I can overthink, but I'm going to say a lot. Because I do feel a bit worried'. (Ashley, High School)

'So yeah, in my first high school, there was, there wasn't a lot of support at all for me, which also didn't help because it put my self-esteem down, put my grades to go down, like my marks or my assignments to go down. Yeah.' (Amelia, Master's Degree)

Amelia highlights the importance of the school factor in the student's experience. The lack of support in the student's first high secondary school had significant consequences; it negatively impacted their self-esteem which, in turn, affected their academic performance, leading to lower grades and a decline in the quality of their assignments. Considering Vygotsky's (1993) secondary disability approach, Amelia's low self-esteem is regarded as a result of mismatch between difficulties (dyspraxia and dyslexia) and environmental and social barriers. These secondary disabilities were lessened when the incongruence was reduced by changing schools. This also demonstrates the crucial role that a supportive school environment, in terms of the awareness of teachers and communication with students and guidance, plays in fostering a student's confidence, motivation, and overall academic success.

Table 5.4.1, showing 2E students' strengths and weaknesses, can be examined in the context of 'paradoxical difference' and Foucault's (1977) concept of transgression. Accordingly, 2E students' paradoxical experiences of strengths and weaknesses can be interpreted as their deviation from social norms, challenging conventional categorisation as able or disabled. While their high potential and strong academic performance can be considered to accord with societal norms as they are also supposed to be able, their weaknesses may contradict social and educational norms at some points (Allan, 2008). For instance, weaknesses in talking about emotions and socialising with new people, as depicted in Table 5.4.1., can be perceived as behaviours that are sometimes not accepted or are considered a limitation within society. Additionally, strong attributes such as a powerful memory, attention to detail, analytical thinking, and high motivation can be evaluated within the framework of transgressive actions, surpassing standards and more measurable traditional expectations in exams or academic achievements (Schultz, 2012). However, these same students in the sample can experience difficulties with reading and writing, face attention deficit issues and struggle with a lack of self-confidence and self-esteem. These paradoxical circumstances can pose a risk of misidentifying the students and creating stereotypical perceptions (NCTS, 2020). The existence of concepts and perspectives that challenge stereotypes, therefore, becomes crucial in accepting this paradoxical difference and creating a more comprehensive inclusive environment (Foley-Nicpon and Teriba, 2022). This approach, thus, offers a perspective that emphasises the importance of re-evaluating societal norms and boundaries to assess the education and support needs of 2E students.

5.5. Students' Areas of Need and Satisfaction with Support Received

Table 5.5.1 below shows the areas of need of the students, their satisfaction levels with the support that they receive for their needs, and the awareness of others regarding these needs.

Table 5.5.1. Areas of student need and their satisfaction with the support

Themes	Codes
	To improve writing skills (Amelia, Mia, Sophia)

Areas of Need	To have better communication skills and control of emotions (Ashley, Mia, Oliver, Sophia)
	To improve in concentration (Sophia, Oliver, Amelia)
	To have better organising skills (Ashley, Amelia, Sophia, Oliver)
	To express emotions (Ashley, Oliver)
	To improve social skills (Ashley, Mia, Oliver)
	To improve self-esteem and self-confidence (Amelia)
	To have ability to manage stress and anxiety (Ashley, Amelia, Sophia)
Support and awareness of others	I receive SENCO support to deal with exceptionalities (Ashley, Mia)
	I receive support from services outside of school (Mia, Oliver, Sophia)
	I find the level of support and awareness of others about 2E sufficient (Ashley, Amelia, Mia)
	I do not find the support and awareness of others satisfactory (Oliver, Amelia, Sophia)

Table 5.5.1 above shows the areas of need of the students, their satisfaction levels with the support that they receive for their needs, and the perceived awareness of others regarding these needs. The identified areas of need are broadly classified as social, emotional, academic, and communication skills. Communicational and organisational skills, writing, attention, emotional expression, and coping with exam stress were found to be the prominent areas of need among the students. In addition, Amelia's school performance has been negatively affected by a perceived insufficient awareness among her teachers of the possibility of her exceptionalities and by experiencing bullying from her peers. As a result, her

self-esteem and self-confidence have been adversely impacted. Furthermore, Table 5.5.1. illustrates the potential connection between students' areas of need and the exceptionalities that they have. For instance, it appears evident that Sophia and Oliver require support in focusing and organising skills due to their ADHD. Additionally, Ashley, Mia, and Oliver indicated a need for assistance in socialisation and emotional expression as they have autism. Student verbatims related to some of the codes above are presented as follows:

'I cannot manage long forms of conservation, talking'. (Sophia, Master`s Degree)

'For example, for my dyspraxia is about, you know, what it is a body coordination one so you bump into things quite a lot. So obviously, that's like when I'm feeling really stressed. I noticed that I'm bumping into things a lot because I know the reaction it gives me not as a bad thing bumping into things as long as you don't hurt yourself. But, but it's like connecting between the brain and the dyspraxia'. (Amelia, Master`s Degree)

'Well, again, like, it's probably just social impairment, maybe, I mean, I'm diagnosed with ADHD now as an adult, and I can't get anything together for the life of me, my life is incredibly disorganised. Like really disorganised. For somebody with supposedly high potential. I'm not really living up to it. And that's where I'll fall short and probably get a lower mark because I just didn't organise myself or put any time in to do the work. And therefore, it's wasted potential'. (Oliver, Undergraduate)

'So yeah, in my first high school, there wasn't a lot of support at all for me, which also didn't help because it put my self-esteem down, put my grades to go down, like my marks or my assignments to go down. Yeah. So obviously it was not just as well the bullying, but it was as well like the teachers as well didn't have faith for me. So obviously, you could imagine confidence as zero. So, didn't have a lot of support at all. But when I went to my second high school, they were much better, much, much better'. (Amelia, Master`s Degree)

'Sometimes I can find myself a bit more susceptible to, kind of, kind of, stress or anxiety a bit more. Which means sometimes, like, especially exams and deadlines and that kind of stuff, even though I tend to be a little bit better with them, they can still stress me out more'. (Ashley, High School)

When examining the theme of support and awareness of others, specifically regarding students coping with exceptional conditions, Ashley and Mia expressed that they received support from the special educational needs coordinator (SENCO) and were satisfied with this assistance. Mia stated that the SENCO provided guidance for her communication skills and sleep-related issues, while Ashley received support for managing exam stress. In contrast, Amelia's experiences varied in terms of the attitudes of teachers and students in both her first and second schools, as did the support that she received; her responses related to this aspect were both positive and negative. Mia indicated that she sought support for her sleep problems outside of school, Sophia mentioned receiving assistance for her depression that arose during university, and Oliver stated that he sought external support for identifying his high IQ and other issues. The lack of support within the school environment and the resulting dissatisfaction can be attributed to the students' exceptionality not being fully understood or identified.

'Inside school, I do have my, the SENCO, which I can, which is the person who is kind of in charge of this kind of stuff in my school. And I speak to them. I speak to them occasionally about things that kind of stressed me out and kind of finding ways to adapt to those different situations. Even though I can find social stuff a little bit more difficult, it's not as damaging as the kind of stress and stuff inside school. Which means I haven't really needed to find anything outside school'. (Ashley, High School)

'I think high school didn't really offer anything but in university yes, and I went to a help service at the uni, but then I also went to psychologist service out of university'. (Sophia, Master's Degree)

'I wasn't labelled as a child with special needs. The only possible diagnosis I had was an ADD. That's like nothing. So, like no, I didn't get any help or anything like that. Because I had the so-called high potential'. (Oliver, Undergraduate)

'But when my mum moved me to my second high school, it was much better and that's when I realised, Oh, okay, I do have a brain. Like there is something up there and it is working. But yeah, I definitely felt my advantages when I went to my second high school, or wherever I went. But when I wasn't at my first high school. Yeah, it was really difficult. Because I didn't

really think I had any strengths within me, because all I could see was weakness`. (Amelia, Master`s Degree)

These verbatims underline the importance of providing support and understanding tailored to the specific needs of students with exceptionalities. These specific needs suggest the importance of the concept of child-centredness, considering Table 5.5.1 that emphasises the individuality and diversity of students' needs and shows the extent to which students are satisfied with the support received depending on awareness. Georgeson et al. (2015) argue that the child-centred approach is open to different interpretations and interdisciplinary debates, emphasising the need for flexibility that moves away from standardisation. Accordingly, as reported in the Salamanca Statement (UNESCO, 1994), child-centredness or a student-centred approach, which focuses on the child's interests, needs, and potential, holds a different meaning for each child (Georgeson et al., 2015). Practices such as the introduction of a national curriculum, which facilitates standardisation, militates against acceptance of diversity and uniqueness, making it difficult to respond appropriately to the specific needs of 2E learners (Strain and Simkins, 2008). In addition, although teachers may develop an understanding that acknowledges the needs of students, due to the stereotypical perceptions and lack of awareness, the needs of 2E students may still be overlooked (Chitty, 2008). In this case, a child-centred approach may work to overshadow the specificity of 2E students rather than recognise it. It is necessary therefore to acknowledge that student-centredness holds a different meaning for each student and understand the importance of an inclusive approach that embraces diversity. Providing a learning environment where students can pursue their own interests, actively engage, and fulfil their individual potentials will add a new dimension to the concept of student-centredness (Georgeson et al., 2015). In contrast to mainstream schools, special schools tend to adopt a more holistic and child-centred approach as children in these schools could be at a higher risk of experiencing marginalisation and victimisation (Warnock, 2005). Accordingly, teachers in special schools are expected to be aware of the diverse needs of the students and develop a more inclusive and fostering learning setting (Hughes, Banks and Terras, 2013; Warnock, 2005).

5.6. Masking Effect: How Challenges and Abilities Conceal Each Other

It is recognised that disabilities that 2E students have may mask their abilities, and conversely, that their high potential can make it difficult for these disabilities to be made visible (Assouline et al., 2006). This can lead to the special abilities and disabilities of 2E students being overlooked or misdiagnosed (Reis et al., 1997). The masking effect in 2E students can manifest in different ways and result in various consequences; for instance, 2E students may ignore or fail to recognise their disabilities or other conditions as a result of lack of self-awareness. They may overlook or disregard their own difficulties or needs while engaging with their high abilities or focusing on other areas where they excel (Amran and Majid, 2019). In contrast, their disabilities may overshadow their abilities and not allow them to fully showcase their true potential, preventing students from expressing themselves fully and resulting in a lack of access to the support and resources they need (Buică-Belciu and Popovici, 2014). Masking should therefore be considered from a dual perspective of both the students' inner world and their perception by teachers and others.

One student participant, Amelia, struggling with difficulties such as dyslexia and dyspraxia, experienced underachievement in her first high school, and her teachers were reported to have a narrow focus on academic success, delaying the recognition of her disabilities and talent in sport. In this example, it is understood that the student's difficulties may mask her ability, negatively impacting her academic achievement and causing the special needs of this student to be overlooked (Reis and McCoach, 2002). Furthermore, difficulties in social interactions or problems with emotional regulation can also stem from the non-recognition of disabilities and the failure to receive accurate diagnosis and support (King, 2005). This example also demonstrates how an emphasis on academic success can hinder the discovery of all the exceptionalities that a student possesses. Therefore, it is important to understand not only students' academic success but also their abilities and challenges in order to fully unleash their potential and provide appropriate support for their needs. This is a critical step in endeavouring to understand students' own perspectives and in enabling them to express themselves, and in the provision of appropriate special education and support services.

Below, Table 5.6.1. shows the circumstances of difficulties limiting the areas in which students are able.

Table 5.6.1. The circumstances of difficulties limiting the areas in which students are able

Themes	Codes
Masking	Disadvantageous circumstances do not always overshadow academic performance and talent (Oliver, Mia, Sophia)
	Gifts might mask some negative conditions (Oliver, Sophia)
	Disability and weaknesses can sometimes overshadow ability (Ashley, Amelia, Sophia, Oliver)

The theme of masking shown in Table 5.6.1. emphasises the relationship between students' special needs or challenges and their academic achievement and abilities. Students such as Oliver, Mia, and Sophia indicate that their special talents can sometimes mask their disabilities while these conditions do not overshadow their academic performance and abilities. This means that by recognising the specific talents or exceptional qualities of students, other challenges or needs may be overlooked. However, Ashley, Amelia, and Sophia stated that disabilities or weaknesses can sometimes overshadow their abilities, which means that despite experiencing some difficulties, their potential may not be understood or be trivialised.

'Yeah. So social relations means that I don't. If we have to work in a group to do like an experiment in science, it sometimes doesn't go very well. And then I struggle to write quickly. So, I can't take notes as well to revise for exams as the other kids do. But my memory means I don't really have to. I can remember most of it. Otherwise, you wouldn't really be a talented'.
(Mia, Grammar High School)

Mia stated that, despite experiencing difficulties in writing, she was able to successfully overcome the situation due to her strong memory.

'My ADHD problems is probably the only thing that's gotten me through, like, you know, if I didn't have any high potential, then I would just like, what would I do? Like the high potential helps, it helps me get through life'. (Oliver, Undergraduate)

'Let's say we're having a conversation that we are now. You can sometimes get distracted by the tiniest little thing. And you just say like, why is it like that? Like, you get like, it's really hard to explain. So, I guess on the detail thing, it's just, it's just learning how to control it [and] figure out where, so especially with table tennis. You, I'm not sure if this affects static people, but like, when you're in a room full of people, and they're all talking at the same time, that can affect me, because obviously, it affects your hearing as well, I think yeah, to really listen to what people are saying. You have to really pay attention to what they're doing. So, it does affect. Yeah, yeah. Dyslexia does affect my, my, my whole life'. (Amelia, Master's Degree)

5.7. Description of Social Relations of the Students

Exploring the social relationships of 2E students is essential for gaining insights into their real-life experiences and inner worlds. However, the complexity of 2E can hinder the delineation and comprehension of their social interactions and this, in turn, significantly influences the number of studies conducted on the social experiences of 2E students (Barber and Mueller, 2011).

Silverman (2002) draws attention to the non-synchronous development of the cognitive skills and social and emotional development of gifted students which may cause them to experience difficulties in the social sphere and to distance themselves from their peers and eventually become isolated. However, Nielsen (2002) and Trail (2008) conclude in their studies that high potential students tend to have more social interactions with peers who are similar to them or with peers or adults with common interests. Nielsen (2002) also underlines that while gifted students are able to develop social relationships with a peer group or individuals based on their common interests and abilities, 2E students experience more difficulty in finding a peer group or individuals with whom they can share their interests and abilities compared to gifted students. This difference can stem from the presence of autism spectrum conditions as a disability among many 2E students, which can lead to challenges in building social relationships with their peers (Reis, Gelbar and Madaus, 2021). Coleman (2001), in research with 2E students, suggests that the high academic expectations from teachers, parents and society towards 2E students and the emotional difficulties they experience as a result of not being able to meet these expectations can also impact their social

relationships. That is, in addition to their internal experiences, it is evident that 2E students' difficulties in their social relationships are further exacerbated by the lack of awareness of, and the influence of stigmas from, people around them. It is essential to evaluate 2E students without labels such as gifted or any stigmatising term and to ensure that expectations regarding academic achievement or any other field remain at the individual level (Foley-Nicpon, Assouline and Colangelo, 2013).

Barber and Mueller (2011), who investigated 2E students' perception of social relationships, concluded that the social problems faced by 2E students are not limited to the school environment and cannot be evaluated only in this context, but should also be considered as a condition related to the individual's own perceptions, social adaptation skills, emotional difficulties, communication skills, self-confidence, and family dynamics. In this study, in accordance with the above research, the social experiences of the students were not limited to the academic environment, and relationships with family and peers were also investigated. In describing their experiences, the students also addressed their emotional difficulties, shared their communicative experiences and their family dynamics. Similar results were obtained in this study to those found in the above-mentioned studies and findings that emphasised different aspects of twice-exceptionality were explored. When examining the social relationships of the students, the study reached a similar conclusion to Nielsen (2002), indicating that 2E students struggle to find a peer group with whom they can share their interests and talents. As a result, the current study found that the students in the sample mostly preferred to foster social relationships with teachers who facilitate discussions and sharing related to their areas of interest. In the study, Mia's preference to discuss her interests with her teachers and parents instead of peer groups can serve as an example highlighting the social dynamics of 2E students in terms of their peer relationships.

Students such as Ashley, Mia and Sophia mentioned the significant contribution of their parents to their academic achievements. In addition, the positive relationships these students developed with their parents contributed to their social and emotional development and learning process. This finding can be supported with the ideas of Vygotsky's (1978) socio-cultural theory, which suggests that positive social interactions, including between parents and children, can contribute to their learning process and support their academic achievements and social skills (Bøttcher and Dammeyer, 2012). The positive impact of social

interaction in the learning process is evident among the findings and accords with this theory. Below, table 5.7.1. shows the social relations of the students.

Table 5.7.1. Social relations of the students

Categories	Codes
Family Members	Parents who contribute to academic success (Ashley, Mia, Sophia)
	Positive relationships with parents contributing to emotional well-being (Ashley, Sophia, Amelia, Oliver)
	Conflicts with siblings (Mia)
Teachers	Teachers who lack effective communication with students (Oliver, Amelia)
	Teachers providing guidance and mentorship, creating an inclusive classroom environment (Ashley, Mia)
	Teachers lacking understanding and awareness of 2E (Oliver, Amelia)
	Teachers of the subjects I'm interested in are my favourite ones (Sophia)
Peers	A small number of close friends (Amelia, Oliver, Mia, Sophia)
	Good relationships with peers (Ashley, Sophia)
	Bullying or conflicts and strained relationships with individuals (Oliver, Amelia)
	Positive relationships and effective communication with teachers and adults instead of peers (Mia)

As shown in Table 5.7.1, it is evident that parents, teachers, and peers have a significant impact on the students' academic achievements, emotional well-being, and social relationships. Findings suggest that teachers' ability to communicate effectively and be sensitive to different student needs is crucial in terms of awareness about 2E, providing guidance, creating an inclusive education environment, and addressing the students' need for understanding. This issue will be further explored in the following section.

Positive relationships with parents and their contribution to academic achievement are situations that most of the students (Ashley, Mia, Sophia) perceive in terms of social relations with family members. Mia's conflict with her sister indicates that such individual experiences can also occur in other social relationships within the family. This may have more to do with Mia having better social relationships with adults or teachers than with her peers or children.

'Family support to do, yeah, my family has been so supportive. Well, everything, every possible way you could think of like, apart from they don't like me taking drugs, obviously. But they like, anyway, you could think of them. They are supportive. Yeah, they're absolutely incredible. Beautiful. Yeah. I love my family'. (Oliver, Undergraduate)

Researcher: *'At first, you told me that you find people irritating. So, do you feel the same thing in your family atmosphere?'*

'With my sister not really with my dad. We argue'. (Mia, Grammar High School)

The relationships that students have with their teachers also vary. Oliver and Amelia, who stated that teachers communicate less with them in different educational levels and schools, also stated that they feel misunderstood and that teachers lack awareness. This situation also reveals the connection between communication and awareness and understanding. However, Ashley and Mia claim that teachers provide adequate guidance and create an inclusive environment. In this case, teachers' competence in guidance and their efforts to create an inclusive environment are important. To contribute to this inclusive environment, the guidance provided by teachers should also ensure that students' learning is supported, and their individual development is maximised through scaffolding progress in the skills included in their ZPD (Zambo, 2009; Shvarts and Bakker, 2019).

The fact that Oliver and Amelia's disabilities were diagnosed late and that they have multiple exceptionalities appears to negatively affect the understanding of their needs. Moreover, Sophia, unlike other students, stated that her relationship with teachers in her areas of interest is better, suggesting that interests can also be effective in the formation of social relationships.

'So teachers, I was always taught to respect teachers a lot. My parents were both teachers. So, I always had a natural respect for them anyway; unfortunately, the way that respect works is it must be mutual, or as is not true respect. And some teachers don't like giving that and when you're a little kid, like, although you're a little child that logic still works'. (Oliver, Undergraduate)

Researcher: *'Are you getting on well with your classmates and teachers? Or which one do you get on well with?'*

'Teachers mainly, because I get things done. I don't mess around, so teachers like it'. (Mia, Grammar High School)

'As I said, you know, the SENCO is really passionate about her autistic kids, and says how a lot of these kids are exceptional students in their own way. And just need a little bit of acknowledgement'. (Parent of Ashley)

'So I would be interested in mathematical literacy and painting. And, like, I'm also interested in history. So, like, those three teachers are my favourite'. (Sophia, Master's Degree)

Another noteworthy finding is that most of the students (Amelia, Oliver, Mia, Sophia) have a limited number of close friends. While Ashley and Sophia reported successfully establishing positive relationships with their peers, Oliver experienced negative interactions from secondary school through to university, and Amelia faced adverse experiences with her friends in her first secondary school. This situation has resulted in social difficulties for them, such as isolation and emotional loneliness.

'I had always 3-4 friends and I would meet them. But a small group of friends'. (Sophia, Master's Degree)

Researcher: *'Did you ever face abuse from your peers?'*

Yeah, yeah, all the time. You know, like call name calling, like, oh, you're stupid, or you're not gonna do anything in life. You're gonna work in McDonald's, or you're not going to be able to be, you know, a professional because of this thing. Well, that affects me really badly. Like, obviously, emotionally, I'll think I'll be stupid. I wouldn't think I'll be intelligent. I didn't really think oh, okay, I'm just gonna work in a small job. And I'm not gonna amount to anything. So yeah, it does affect you, especially when the circle of people around you are very negative and horrible. Yeah`. (Amelia, Master`s Degree)

5.8. Findings Relating to Teachers` Views

Data were collected from 7 teachers working in various secondary schools in Plymouth, including a special school and a grammar school. Some teachers were interviewed in person or via Zoom while some completed a questionnaire via Google Forms or email. The codes and themes derived from student data were considered appropriate for content analysis, however, the qualitative data obtained from the teachers required further exploration and identification of meanings on account of the paucity of data available. There was insufficient teacher data and therefore a limited number of themes that could be identified in the transcripts and questionnaire forms (Braun and Clarke, 2006). Some teachers failed to answer all of the questions in the questionnaire form or did not provide sufficiently detailed responses, hence, the forms contained less data than the interview transcripts. It was therefore decided to conduct a more reflexive thematic analytic method of the teacher data; in this method of analysis, the researcher also reflects on the relationship between themes and codes in addition to considering their own positionality (Braun and Clarke, 2019).

As in the analysis of student data, a combined inductive and deductive approach was adopted in determining the themes in the teacher data. There were similarities between both data sets regarding the experiences of 2E students, although some teachers had more differentiated views. Some statements from teachers contained the codes derived from analysis of the student data, while other codes were formed through inference, that is, the meaning was inferred from the text.

5.8.1. Intervention and Support Efforts of Teachers for 2E Students

Better understanding the complex dynamics faced by 2E students and exploring their impact on their overall well-being are important for proposing solutions. Prioritising social-emotional development, communication and social skills training, and a strength-based approach can further enhance their overall well-being (King, 2005). Collaborative partnerships among educators, parents, and professionals also play a vital role in creating a holistic support system (Baum et al., 2014), and providing mental health support and offering opportunities for showcasing talents are essential (Renzulli et al., 2007). By implementing these strategies, educators and other stakeholders can create an inclusive and supportive environment that empowers 2E students to thrive academically and socially. Teachers play a crucial role in providing inclusion for 2E students, who possess both exceptional abilities and learning challenges. To understand the extent and impact of support within educational settings, questions have been posed regarding how teachers develop strategies to meet the special needs and support the strengths of these students. This includes examining the frequency and level at which teachers utilise a range of approaches, such as individualised instruction, differentiated assignments (Thomas, Charlotte, Emily), and personalised learning plans (Rosie, Phoebe). In this context, Vygotsky's (1978) ZPD approach can also be an opportunity to identify instructional strategies and maximise students' strengths, while being an important tool for determining appropriate levels of difficulty in the learning process to address and strengthen students' weaknesses. In order for students to make progress in the skills in their ZPD, guidance must be provided that considers their weaknesses and strengths, as well as recognising and responding to students' individualised learning potential.

The investigations explore how teachers design strategies that address both the students' strengths and areas of difficulty and how they strive to create inclusive and supportive learning environments that promote students' overall academic and socio-emotional growth. Below is the table 5.8.1.1. showing the support efforts of teachers for 2E students.

Table 5.8.1.1. Intervention and support efforts of teachers for 2E students

Themes	Codes
	Differentiated tasks (Thomas, Charlotte, Emily)

Intervention and Support Efforts	Awareness of diversity (Thomas, Emily, Rosie, Phoebe)
	To be less prescriptive (Thomas, Charlotte)
	Encouraging online learning (Charlotte)
	Individual Support and inclusion (Charlotte, Isabella, Sienna, Emily, Rosie, Phoebe)
	Individualised Plans (Rosie, Phoebe)
	To encourage interest areas and academic achievement (Charlotte, Sienna, Isabella, Emily, Rosie, Phoebe)
	Extracurricular activities and after-school clubs (Thomas, Emily)
	To emphasise students' strengths (Emily, Rosie, Phoebe)
	To provide students with work experience (Rosie, Phoebe)

Practical examples of how teachers support 2E students in order to respond to their strengths and areas of need are illustrated in Table 5.8.1.1. While support is crucial for every student in special education, identifying students' individuality, special educational needs and areas of strength enhances the quality of this support (Baldwin, Omdal and Pereles, 2015). Thus, this process also requires the identification of the students' ZPDs as it ensures a balance between challenge and support for optimal educational progress and helps teachers tailor their teaching strategies to each student's specific learning level. The table demonstrates that teachers are aware of the diversity and individuality of 2E students; in addition, they evaluate 2E students individually, acknowledging their diverse needs and areas of strength and other unique characteristics. However, the statements of teachers in both the interviews and questionnaire forms strongly suggested that teachers are unfamiliar with the term twice exceptionality or 2E.

Although it could be surmised that the lack of familiarity with the term or concept of 2E may impede teachers from adequately meeting the educational needs of 2E students (Dimitriadis et al., 2021), making it more difficult for these students to realise their potential and more challenging for teachers to implement appropriate strategies, teacher participants stressed that they endeavour to address these students' needs and support their strengths, which is consistent with scaffolding within the ZPD (Shvarts and Bakker, 2019). Teachers assigning different tasks to these students compared to those assigned to their peers, being more tolerant in terms of classroom rules, preparing individualised plans, and provision of individual support may serve as indicators of this effort. However, the absence of awareness of the term 2E suggests that some teachers are failing to grasp the specificity of twice exceptionality and may, therefore, not comprehend what this combination of abilities and difficulties can mean for students, or how to support these effectively and avoid the risk of misinterpreting and mis-assessing these students. Support efforts are multi-dimensional, and it is important for teachers not only to assist students in their areas of need or weakness but also to encourage them to reveal their strengths and develop their areas of interest.

In order for students to actively construct their own knowledge, it is essential to provide them with customised learning experiences based on their interests and needs and encourage their active participation in the learning process (Panhwar et al., 2016). This forms the foundation of a student-centred learning environment, which could also encompass the principles of Vygotsky's (1978) socio-cultural theory and the social constructivist approach in education (Draper, 2002). In line with the principles of learner-centredness, the ZPD provides a dynamic process that stimulates an environment for learning and helps students to realise their potential (Shabani et al., 2010; Zambo, 2009). That is, when students reach a significant level of proficiency in an academic area, they progress to set higher goals for another skill. To ensure their sustained interest and motivation to learn, the challenging tasks given should consider the individual needs of the students and be compatible with their ZPD (Fani and Ghaemi, 2011). This approach contributes to the development of their exceptional abilities by promoting autonomy, as they are encouraged to set and achieve goals that go beyond their current capabilities (Shabani et al., 2010).

Learner-centredness, which emphasises placing the focus in education on the needs, interests, strengths and learning styles of the learner, combined with the basic principles of

the constructivist approach, encourages students to actively participate in the learning process and discover their own learning paths (White-Clark et al., 2008). From the Vygotskian perspective, in a social constructivist learning process, students re-construct knowledge by relating it to social interactions and teachers incorporate students' socio-cultural background into the learning environment so that students develop a sense of belonging and benefit from their prior knowledge and cultural resources (Weegar and Pacis, 2012). That is, it is evident that the socio-cultural theory also contributes to educational constructivism (Panhwar et al., 2016). In this regard, the social clubs and extracurricular activities mentioned by the participant teachers hold significance for students to reframe their knowledge and broaden their perspectives through social interactions. This approach enables students to understand the learning content, apply knowledge in practical situations, and set their own goals. Creating projects and assignments based on students' interests allows them to explore and research topics that align with their individual areas of interest, making the learning experience more meaningful (Panhwar et al., 2016; Weegar and Pacis, 2012). The participant teachers' attitudes, which are aligned with learner-centeredness and the constructivist approach, contribute to an inclusive and supportive learning environment by acknowledging individual differences among students and valuing each student's different background and learning style. For example, Charlotte's encouragement of online learning provides students with opportunities to explore their interests and engage in self-directed learning, empowering them to take ownership of their learning and discover new information and resources. In addition, the preparation of individualised plans by Rosie and Phoebe, which actively involve students in their own learning processes and enable them to set goals aligned with their interests, further supports learner-centeredness by adapting to students' specific needs and strengths. As can be seen in the examples, the participating teachers' practices considering the differences and interests of the students and fostering the student-centred learning are compatible with both Vygotsky's socio-cultural theory and the constructivist approach.

Providing students with more individualised learning activities by considering their strengths and weaknesses can reflect a constructivist approach as outlined above. However, 2E awareness can also alert teachers to the possibility that strong abilities can mask weaknesses or weaknesses can overshadow strengths (Assouline, Nicpon and Whiteman, 2010). This information can encourage teachers to take more care in this regard; and when designing

differentiated learning activities, it becomes imperative to consider the masking effect in 2E students and re-evaluate students' strengths and weaknesses within the framework of 2E. This approach ensures a more comprehensive understanding of students' individual profiles and facilitates the creation of tailored educational experiences that address their special needs (Georgeson et al., 2015). By acknowledging and accounting for the complex interplay between strengths and weaknesses, educators can foster an inclusive and supportive learning environment that promotes optimal growth and development for all learners. Below are verbatims that can be referenced to the codes above:

`For all my lessons I plan for differentiated tasks and outcomes. This includes interventions and particular strategies for both students who are particularly able and/or for those that have additional needs and are SEND. Often, but not always, these interventions are mutually exclusive. In the case of twice-exceptional students, I will often "combine" these actions`. (Thomas, Comprehensive School)

`It doesn't require us to challenge our teaching styles. But I think within a special school, we differentiate the learning needs of all of our students. Anyway, certainly, it just required us to stretch further`. (Sienna, Special School)

‘When I plan an observational drawing lesson for a group that includes a 2e autistic student, I will be less prescriptive than usual about the object that is being drawn’. (Thomas, Comprehensive School)

Thomas' implementation of differentiated tasks in all lessons for both gifted and students with additional needs, as well as his flexibility in adapting the rules for a 2E student in his class, demonstrates that he is aware of the students' needs and adopts a student-centred approach. While Sienna, from a special school, does not explicitly address how teaching strategies should be, but reflects her commitment to diversity, differentiation, and tailored support.

`What I would say is, for an experienced teacher, a diagnosis doesn't matter, because they will know how to work with children and how to get the best out of them. And they will do their very best to seek out support and things [] it's really difficult to get the professionals that do diagnose that and conditions or disabilities into our classrooms to actually support children. And actually, that's really bad because the teachers need to understand the strategies that would best suit the children and their needs within their classroom [] But not all teachers have

the time, or maybe the experience to know that they can get they can go off and they can be free in the support of the student in their classroom. Maybe they've got a really good, Special Educational Needs department`. (Emily, Special School)

Although Emily argues that it is not necessary to conceptualise or diagnose students' needs and abilities here, she acknowledges that teachers find themselves in different contexts that influence their capacity to provide support to students through appropriate strategies.

`I help them to learn as best I can. This includes all sorts of things such as seating arrangements, online learning, different tasks and outcomes, individual advice. Other staff may also be involved, to give individual support in or out of the classroom`. (Charlotte, Grammar School)

In the verbatim above, it is observed that the codes of differentiated tasks, to be less prescriptive, encouraging online learning and individual support were raised by one teacher.

`So whilst a student might demonstrate that they're very gifted in one particular area at one point, it may, they may not always be gifted in that particular area. So it's about making sure that you provide the support and the extracurricular activities for them to really engage in that particular area that they're very gifted in, if you see, I mean, it's, I think, my personal experience has, has always shown me that it's much better to treat children as individuals and work with their needs, and also the things that they really excel at, in on an individual basis`. (Emily, Special School)

`And then we start looking at the vocations and careers and thinking actually about finding them work placements that work with that skill that they've got, and they can push forward. So, Daniel, for example, we got work experience in a library, because we knew he wanted to be an author`. (Rosie, Special School)

The above verbatims indicate that teachers' support efforts are important steps in identifying 2E students. Rosie, from a special school, stated that the talented students in her school are assisted to secure employment in order to develop their talents and provided financial support. Additionally, Thomas, Emily and Charlotte who create differentiated assignments for students and demonstrate a flexible approach in educational environments, reflect efforts to acknowledge their students' individuality. However, teachers' unfamiliarity with the term 2E

may give rise to concerns about potential limitations in understanding the paradoxical exceptionality that 2E students possess, as well as in uncovering characteristics that may not be readily apparent or that students can mask, in addition to addressing visible needs and strengths.

5.8.2. Educational Experiences of Teachers with 2E Students

Teachers' experiences of teaching 2E students are coded under 'differentiated and individualised teaching', 'classroom management' and 'non-recognition of 2E'. Differentiated and individualised teaching is crucial for addressing the diverse abilities and learning difficulties of 2E students (Renzulli and Gelbar, 2020). Effective classroom management strategies are also important for creating an inclusive learning environment that caters to the needs of 2E students (Farah and Johnsen, 2021). However, the non-recognition of 2E students can result in their exceptional abilities going unnoticed and a lack of appropriate support. This highlights the need for teachers to raise awareness in their schools and advocate for recognising the potential of 2E students and providing them with the necessary support. Below, Table 5.8.2.1. shows the educational experiences of teachers with 2E students.

Table 5.8.2.1. Educational experiences of teachers with 2E students

Themes	Codes
Differentiated and individualised teaching	Using different teaching methods (Rosie, Phoebe)
	To embrace difference (Thomas, Sienna)
	Entering and understanding the world of 2E students (Rosie)
	Considering different learning levels of 2E (Isabella, Emily, Sienna)
	To meet individual needs (Emily, Sienna, Rosie, Phoebe)

Class management	Dealing with management challenges in the class (Emily)
	2E students supporting their friends academically (Sienna)
Non-recognition of 2E	Misinformation, misunderstanding, non-recognition or prejudices of other teachers and society about 2E students (Isabella, Rosie, Phoebe)

Table 5.8.2.1. shows teachers' experiences and observations with 2E students based on their current or past experiences in various educational settings, reflecting both shared and individual experiences. Emily's challenges with classroom management and, as Sienna claimed, the academic support of her 2E students for their peers are distinctive examples; these instances indicate the development of diverse strategies in response to common obstacles, rather than simply categorising them as positive or negative experiences. Vygotsky's (1978) theory of the ZPD (zone of proximal development) can be associated with 2E students assisting their peers in academic subjects. According to Vygotsky (1978), interaction among individuals plays a significant role in the learning process, and an individual's learning potential is determined within the ZPD (Kozulin et al.,2003). This zone encompasses tasks that individuals cannot accomplish on their own but can achieve with assistance and guidance; thus, more able students can help disadvantaged students within this zone (Berk and Winsler, 1995). These interactions can help the academically disadvantaged students expand their own ZPD, unlock their greater learning potential, foster a more equitable learning environment, and enable students to engage with each other in a shared learning experience (Rogoff, 2003). In the context of 2E, the fact that 2E students, who excel academically, help their peers in academic subjects is considered as a classroom management strategy by teacher Sienna. This strategy can involve the 2E students using their leadership skills to guide other students and thus enrich the learning process of other students by increasing co-operation in the classroom. Although the 2E students, in this example, contribute to the learning process by providing academic support to their peers, 2E

students also need a guidance to enable them to continue learning at their own pace and an environment in which their ZPD is recognised, and their individual needs are met. In this respect, the scope of ZPD might be more limited for gifted and 2E students. For instance, in cases where exceptionally gifted and talented students are academically ahead of their peers and the curriculum does not meet their needs, it can be an effective approach to provide challenging tasks that allow for independent exploration and encourage self-development as well as offering advanced materials (Zambo, 2009).

Teachers' recognition of the uniqueness of 2E students, along with an awareness of the abilities and needs that the students have, has prompted them to adopt the belief that 2E students can show success beyond traditional measures of high academic achievement. In this educational environment, teachers are motivated to design varied teaching approaches and strategies, demonstrating empathy towards their students, and embracing the individual differences of each student. According to Vygotsky (1978, 1986), who argues that learning is also a process of social interaction, teachers' endeavours to immerse themselves in the students' world through effective communication result in promoting the cognitive and social development, thereby establishing a more efficient learning environment, and helping in the identification of the students' ZPDs. By offering tailored learning opportunities that align with students' interests and abilities, teachers ultimately contribute to the cultivation of a learner-centred approach.

The theme of non-recognition is also listed in the table, which highlights the experiences of Isabella, Rosie, and Phoebe, who encountered misinformation, misunderstanding, non-recognition, or prejudices from other teachers and society regarding 2E students. This theme suggests a significant issue of a lack of acknowledgement and awareness regarding the unique characteristics and needs of 2E students. Moreover, it serves the researcher's positionality and axiology which includes a desire to promote genuine understanding of 2E individuals among educators while avoiding 'teacher blaming' (Done and Knowler, 2020; Thrupp, 1998) and to increase societal awareness of 2E individuals. Fostering inclusivity in educational settings should be the primary objective and this aligns with the broader goal of creating an environment where the unique needs and potential of 2E students are recognised, valued, and effectively supported. Rosie and Phoebe, who work at a special school, are considered to be a significant part of this initiative as they help the 2E students to gain work experience and

ensure that their needs and talents are socially recognised through this approach. Verbatims that illustrate these points and the codes in Table 5.8.2.1. are listed below.

‘So your differentiation provides them with that teaching, and the approaches that they need. Some students need more visuals. Some students need more sensory breaks, some students need more auditory stuff, some students need a very desensitised environment. So, it's many factors that impact on how you organise the curriculum and the classroom for those individual students. So, it's sort of a challenge for many of our students, whether they've got difficulties, or you know, excel at something, because it's finding the right environment and providing the right environment for them to feel safe and confident’. (Sienna, Special School)

‘They have a great passion for science which interlinks with my subject. However, this can lead them to want to discuss the subject at a much deeper level than their peers’. (Isabella, Grammar School)

‘I suppose, the differentiation of level. So, ensuring that you're always providing challenge to those students that are working at a very different level. Whilst, because, if they're in one classroom with, sometimes I have class sizes of 39, which is huge. And you'd be working with students who were gifted in one particular area. And it would be difficult in that respect to make sure that you didn't make other students feel inferior, or like they weren't good enough, or they weren't clever’. (Emily, Special School)

‘I think the difficulty for me is getting the wider world to see their strength, just to see how that can be transferred. So that goes back to vocational stuff. You know, we've had kids that are just amazing. Some employers see it. And that's why, because of our big push on employment, some see it, but quite a lot of people can't. They just see a disability and can't see the positives’. (Rosie, Special School)

Differentiated and individualised teaching approaches align with Deleuze and Guattari's (1987) emphasis on recognising and valuing differences, allowing the diverse needs and abilities of 2E students to be acknowledged and addressed. Deleuze and Guattari (1987) argue against fixed categories, standardised norms, and hierarchical structures, advocating the embracing of multiplicity and diversity (Allan, 2008). The implication of this theory is that, when developing individualised strategies, it is necessary to avoid normative perspectives and a hierarchy of disabilities and abilities and, instead, embrace diversity and inclusivity. Deleuze

and Guattari (1987) thus provide insights into how individualised teaching should happen. In addition, Foucault (1982) addresses the influence of power in shaping educational practices and institutions, emphasising how power relations impact the experiences of both teachers and students. Classroom rules, instructions and discipline policies can reflect power relations and influence how teachers utilise authority and control mechanisms within educational settings (Hoskin, 1990). In relation to this, participant teacher Thomas stated that, although the 2E students in his class tend to act independently of in-class instructions, it is necessary to encourage their creativity and autonomy, even though it makes class management difficult. In such cases, providing personalised tasks that consider students' individual interests and learning pace challenges the traditional understanding of authority, thereby facilitating a more egalitarian and flexible approach to power distribution.

In the context of the non-recognition of 2E students, a Foucauldian perspective implies that the failure to recognise their exceptional abilities and provide appropriate support can be understood as the manifestation of power dynamics within the education system (Foucault, 1982). Power structures and hierarchies often determine which talents and characteristics will be valued and acknowledged, marginalising or disregarding those who do not conform to dominant norms (Ball, 2012). This can lead to underrepresentation or neglect of the exceptional abilities and learning needs of 2E students.

5.8.3. Experiences and Characteristics of 2E Students in Educational Settings Based on Teachers' Data

The experiences and characteristics of 2E students in educational settings are also being investigated based on teachers' observations in order to gain insights and understanding. The analysis of the data obtained from teachers' responses in this study provides valuable information about the challenges and strengths encountered by 2E students. The findings suggest a significant similarity between the responses of teachers and students regarding the strengths and challenges of 2E students. These similar responses underscore the importance of being aware of the common problems and needs of 2E students and highlight the importance of teacher-student collaboration for 2E students to realise their potential in the educational environment. The additional points highlighted by teachers also provide clues about how 2E is understood from the perspective of teachers. Below, Table 5.8.3.1. shows the challenges and strengths that 2E students have based on teachers' observations.

Table 5.8.3.1. Challenges and strengths of 2E students

Categories	Codes
Challenges	Socialising with peers (Thomas, Isabella, Sienna, Emily, Phoebe, Rosie)
	Speech and language difficulties (Emily)
	Lack of motivation and focus (Thomas, Sienna, Charlotte, Emily)
	Poor organising skills (Thomas, Sienna, Emily)
	Lower academic performance (Thomas, Charlotte, Rosie)
	Low self-esteem and self-confidence (Emily)
	Reading and writing (Sienna, Emily)
	Overconfidence (Phoebe, Rosie)
	Examination anxiety (Isabella)
	Emotional behaviour difficulties (Emily)
	To follow in-class instructions (Thomas, Emily)
Strengths	High academic achievement (Isabella)
	To be extremely organised (Isabella)
	Good relations with adults and teachers (Sienna, Rosie, Phoebe, Emily)
	Strong knowledge and memory skills (Isabella)
	Higher order and critical thinking skills (Emily)
	Problem-solving skills (Emily)
	Wide vocabulary (Charlotte)
	Creative writing (Charlotte)

Table 5.8.3.1. above clearly indicates the social and academic experiences of 2E students in their educational environments based on teachers' observations. The table also explicitly demonstrates the dual nature of 2E, reflecting that students experience their strengths and challenges simultaneously. Both in terms of strengths and challenges, while there are similarities between the views of teachers and students, teachers also highlight some additional aspects. For instance, difficulties commonly reported by both students and teachers include socialising with peers, lack of motivation and focus, poor organisational skills, lower academic performance, low self-esteem and low self-confidence, reading and writing, and examination anxiety. In addition to these difficulties, teachers (Phoebe and Rosie) also observe that some 2E students exhibit overconfidence and a desire for independence, often preferring to be more autonomous rather than strictly following classroom instructions. In addition, Emily noted that some high potential students have speech and language difficulties, which indirectly affect their socialisation; one difficulty leads to another, and they affect each other. This presents an opportunity to gain a comprehensive understanding of 2E students' experiences from the perspectives of both teachers and students. Below are verbatims from teachers concerning the challenges experienced by the students.

‘Social interactions can be difficult, but they have worked hard on listening to others even if they do not agree with what they are saying’. (Isabella, Grammar School)

‘In particular, 2e students find socialising with peers particularly difficult to navigate. I think that it is crucial that schools find ways to help support students in this area. Lunchtime and after-school clubs play an important function here. In my school, examples of such opportunities that allow 2e students to build social networks include a manga drawing club and associated workshops, set designing and prop building opportunities after school, a “Leaky Cauldron” club and an excellent “Thrive” room and support service’. (Thomas, Comprehensive School)

As addressed by Renzulli et al. (2007), social clubs can be established that cater to the areas of interest, such as art, sports, and science to enhance the sense of belonging and self-awareness of gifted and 2E students while reducing social isolation. Additionally, Reis et al. (1997) found in their study that 2E students improve both academic and social skills as a result of collaborating with their peers through social clubs or after-school activities. The 2E students' challenges in socialisation emerge as a prominent finding, as evidenced by the

teachers` data (Thomas, Isabella, Emily, Sienna, Phoebe, Rosie). For instance, Isabella notes that these students struggle with social relations, but also observes that they strive to improve their social skills. Among the interventions provided, Thomas mentioned the existence of after-school clubs, indicating how encouragement and support can be concrete and practical.

`I have had students who have, for example, been on the autistic spectrum, but been very gifted in maths or science, art as well. I've had students with speech and language disorders who have been gifted in particular areas as well of the curriculum. But I think what's unclear is what's really meant by disability. Because disability is such a broad spectrum. And it's also to me, it's quite a horrible word`. (Emily, Special School)

`For example, they might struggle with motivation, attention, or with understanding success criteria, or with the physical act of writing or typing, or with speaking aloud`. (Charlotte, Grammar School)

`I think in terms of organisational skills, that was where it was difficult because this child was quite busy, lively, active student mind was always floating, I mean, always on the go, always on the go. So, the TAs had to support him and make sure that there were routines and structures in place, that he had systems to follow and schedules to follow to make sure that he was able to access that mainstream learning`. (Sienna, Special School)

'So, for example, the students with speech and language disorders, it was very obvious. They were aware that they didn't sound like their peers. And often that would feed into low self-esteem, and ability, or kind of reluctance to get involved in communicating in front of their peers or with their peers, because they didn't, they didn't want people to hear them speak and sound different, and things like that [] Okay. Yeah. So, things like perseverance and low self-esteem, often you see in children that are deemed gifted, because perhaps usually they're used to not having to try so hard in a particular subject area. So, when it gets to something they can't do, they're very quick to give up. That can happen. Some would be kind of very withdrawn, and very shy and, and kind of self-deprecating. And some would be very, would find it very difficult to work with others, to follow instructions to take anything that could be deemed as authority. You know, it really depended on the child and why those EBD (emotional behavioural difficulties) issues were presenting themselves. And that's complex in its own right`. (Emily, Special School)

Based on Emily's observations, it is evident that speech and language disorders in students can lead to social and behavioural difficulties such as low self-esteem, reluctance to communicate with peers, introversion, and shyness. According to Vygotsky (1987), primary disabilities, such as speech, vision, and hearing impairments, as well as other physical and mental disorders, can give rise to secondary social and psychological impairments, including social isolation and low self-esteem. These secondary disabilities are not a direct result of primary ones but occur as a consequence of social norms, conditions, and environmental pressure (Johora, 2021). To mitigate stigmatisation, educators can implement a strength-based strategy that acknowledges students' abilities instead of emphasising their disabilities, thereby fostering an environment in which they can realise their potential (Ritter and Pretti-Frontczak, 2018). Emily's observation can be associated with Vygotsky's (1993) perspective on special education, which focuses on developing individual and societal strategies to understand and intervene in secondary disabilities. For instance, methods such as enhancing the communication skills of individuals with special needs, increasing interaction with the environment, providing social support, and promoting positive self-perception can be utilised (Kozulin et al., 2003). In this way, the individuals can reduce or compensate for their social and psychological impairments and enhance their participation and self-confidence.

‘They would often have the barrier of reading and writing. And so, anything that required them to read quickly, anything that required them to write something down there, they looked like they were not as academic in that particular subject or gifted in that subject as they actually were’. (Emily, Special School)

‘She’s very black and white. If she’s ever really good. Oh, she’s really crap. And she doesn’t want to do that in between bit. And she doesn’t really like learning new because she thinks she already knows everything. Because what the areas that she is good at. She’s very good at. Yeah, so the stuff that she’s not that good at, she’s not really bothered about trying to’. (Phoebe, Special School)

‘Anxieties do arise - usually close to an assessment’. (Isabella, Grammar School)

As regards to strengths, some teachers' views are similar to those of the students; more specifically, there is alignment in the teacher and student perceptions around high academic achievement, positive relationships with adults and teachers, and strong knowledge and

memory skills. However, some teachers noted additional strengths that 2E students may possess, such as being extremely organised, having higher-order and critical thinking skills, problem-solving skills, a wide vocabulary, and creative writing abilities. The observation of high levels of organisation is noteworthy as this differs from the majority of teachers' and students' statements about organisation skills.

‘Fantastic knowledge and memory. They have a great passion for science which interlinks with my subject. Our student is so strong in science which does pour over into my subject. This is excellent for me as they can expand on theories and bring their knowledge into my subject’. (Isabella, Grammar School)

‘I find them extremely organised and academically very strong’. (Isabella, Grammar School)

Yeah. I mean, I'm just thinking of one of the students that's over there at the minute who's quite an enabled student who we've tried to move on, but he's still with us. But that relationship with his peers who he felt weren't able to interact with him at the right level for him, was a challenge’. (Sienna, Special School)

‘Okay, so strengths usually are, you know, the critical thinking, the problem solving those, those kind of things. But some of the students who, who are very deep thinkers aren't so good with the practical side of things. I've also seen, you know, sometimes some of the very, very deep thinkers and children that are very quick at not even quick, have complex understanding of, you know, all of the variety of things that you need a complex understanding of in science. They're not very good at conveying that information to someone else. Sometimes, it's verbal, verbally, sometimes, because they are, especially some of the students with speech and language difficulties, they, they are nervous about what they're saying’. (Emily, Special School)

‘I teach English, so they show their ability in things like: having a wide vocabulary; being perceptive about what a writer does with language; writing excellent essays; producing impressive creative writing; inferring meaning quickly and accurately, being able to explain concisely, etc. etc.’. (Charlotte, Grammar School)

5.8.4. Teachers' Understanding of the Terms (G&T and 2E)

Foucault's (1977) concept of power can be used to explain how social norms and disciplines create a mechanism of control over individuals and their perceptions. Modern disciplines

force individuals to conform to specific norms and exclude or suppress those who do not adhere to these norms. The education system reflects these norms and promotes a certain standardised student model (Ball, 2012; Foucault, 1982). The perceptions of teachers can be influenced by factors such as policies in the education system, school culture, and teachers' own beliefs and experiences (Ball, 2019). In this case, an emphasis on only highlighting students' strengths may be dependent on the influence of social norms too (Allan, 2008). Foucault's (1979, 1982) philosophy of power explains how power relations and disciplines can be reflected in teachers' perceptions (Hoskin, 1990), leading to the neglect of the needs of 2E students while promoting a focus on gifted students' special abilities. However, as understanding and awareness increase in the education system, teachers' perceptions can also change, becoming more sensitive to recognising the individual needs and potentials of each student (Renzulli et al., 2007).

According to Derrida (1976), binaries and contradictions are structural features of thought and language, forming the foundation of a hierarchical order (Harpur, 2012). In Derridean philosophy, when evaluating the characteristics of the paradoxical nature of 2E, the hierarchical ordering of one dimension over the other is criticised. Derrida's (1976) deconstruction approach, when applied to the 2E context, implies questioning binaries in order to render the perception of 2E students more balanced and to increase understanding of their needs. This perspective encourages the holistic evaluation of 2E students rather than separating out their potential and weaknesses. This way, it is possible to support the special abilities of 2E students while also providing solutions to meet their special educational needs. Below, Table 5.8.4.1. shows teachers' understanding of the terms (G&T and 2E).

Table 5.8.4.1. Teachers' understanding of the terms (G&T and 2E)

Themes	Codes
	Specific talent in academic and creative areas (Sienna)
	High academic achievement compared to peers (Sienna)

Understanding of G&T and 2E	A certain interest and expertise in one area (Rosie)
	2E students are high potential people who have additional needs (Emily, Thomas)
	I do not divide my students into categories as G&T and 2E (Emily, Charlotte)
	2E students are more independent than their peers (Thomas)

Table 5.8.4.1. provides a perspective on how teachers understand the terms of 2E and G&T students. Sienna emphasises that giftedness involves having a specific talent in academic and creative domains, and highlights that gifted students possess high academic achievement compared to their peers. This indicates that specific abilities and levels of achievement when identifying G&T students might be a primary focus among teachers. Rosie, on the other hand, states that gifted students have a specific interest area and expertise. Emily and Thomas acknowledge based on their observations of and experiences with 2E students that these students can have contrasting exceptionalities. Moreover, Emily and Charlotte point out that they do not categorise students as G&T or 2E, indicating that these teachers adopt an individual and flexible approach to understanding students' potential and needs. It is evident that these teachers adopt a more holistic and comprehensive approach, rather than relying on categorical labels, and recognise the importance of considering students as unique individuals with diverse strengths and challenges. Thomas' observation that 2E students exhibit greater independence compared to peers and engage in different activities when providing instructions in class, also highlights the notion that these students may require alternative approaches to learning and instruction. Demir and Cetinbas (2023) point out in their study that gifted students show a tendency for autonomous learning and are more independent than their peers. This tendency for autonomous learning can manifest as acting independently from classroom instructions. However, Thomas states that, by approaching students with a more flexible attitude and providing opportunities for students to fulfil their potential, teachers can create an environment that supports their diverse needs. In short, the

varying perspectives and practices demonstrated by teachers in their understanding of 2E and G&T students suggest that these differences could also influence their approaches in practical applications in educational settings (e.g., being less prescriptive). Recognising and accommodating the unique strengths and challenges of high potential and 2E students can contribute to creating inclusive and supportive learning environments (Willard-Holt et al., 2013). Below are verbatims that illustrate teachers' different understandings.

'I think mainly it's children who have got a specific talent, or an ability to achieve more than our generally expected cohort of students. And that could be across any field. So, it could be cognitive, it could be academic, it could be creative, it could be any form of learning'. (Sienna, Special School)

'[] They have a certain interest and expertise in one thing. Quite often it's our pupils of autism that that kind of shows in. And, I suppose, our definition of gifted and talented is probably different to that of mainstream'. (Rosie, Special School)

'It's interesting. I mean, I'm gonna give my full opinion on this. Interesting that you talk about the term twice exceptional. In teaching, in my, in my career, we've never used that term. And I think one of the reasons behind that is purely because we like to view every child as an individual. And so, I wouldn't necessarily be looking at, you know, labelling them as twice exceptional, I'd be looking at labelling them as Tom or Jack or Lucy, or whoever, and looking at the skills and attributes that they have and working with them. [] And yes, I have had students who have, for example, been on the autistic spectrum, but been very gifted in maths or science, art as well. I've had students with speech and language disorders who have been gifted in particular areas as well of the curriculum'. (Emily, Special School)

'I do not mentally divide them into categories. I help them to learn as best I can [] Everyone is different. I can think of many students I have taught who had particular challenges and were of high ability. They are all different'. (Charlotte, Grammar School)

'In my experience, 2e students are particularly drawn to specific themes and media and are more likely to reject other themes and media. For example, 2e students might insist on focusing on their own storybook illustrations rather than the ceramic organic forms that the whole class have been asked to work on. This is often viewed as "frustrating" for many teachers and a "difficulty". However, good Art teachers embrace this particular stream of

creativity and determination and turn it into an advantage. At GCSE level, it is particularly important that teachers are able to adapt schemes of work and taught media and techniques to “tap into” the 2e students’ passions and find suitable artists for these students to make connections with [] Her drawing ability is exceptional and she is autistic. In class, she is quiet and hard-working but often refuses to follow instructions and take part in the lesson activity. She often chooses to work on her own manga-inspired illustrations rather than the work set. At the beginning of the year, this led to one or two heated conversations between the student and teacher but I’m glad to say that a “compromise” was reached. The student agreed to give new ideas and media “a try” each time and the teacher agreed not to “insist” on these responses being finished`. (Thomas, Comprehensive School)

Foucault's (1977) philosophy about power relations encourages challenging social norms and critically evaluating mechanisms of control (Allan, 2008). In this framework, it is important for some participant teachers (Emily and Charlotte) to consider the individual characteristics, potentials, and needs of each student rather than categorising them as gifted/talented or 2E, showing consideration of students' differences, learning styles, and strengths regardless of the influence of disciplines and social norms. In this context, the teachers aiming to evaluate their students without categorising them prioritise their uniqueness and potential, and this approach enables the teachers to approach students more fairly and equally when assessing them. Understanding and meeting individual needs are important to fully reveal students' potential and support their learning in the best possible way. Furthermore, enriching and diversifying students' learning experiences in the absence of categorisation allow students to explore and develop their different abilities and interests.

The different perceptions of teachers suggest that there is a need to raise awareness around understanding students' special abilities and needs. It is crucial for teachers to consider individual differences and students' needs when determining educational strategies. Differentiated teaching methods can be used to support students' strengths and provide support in areas where needed. Focusing solely on the talent aspect of 2E students and disregarding other aspects is a situation that contradicts the deconstructionist theory. In the development of the perception and assessment of 2E students and gifted students, it is important to consider not only their high potential but also their special education needs. That is, an approach based on prioritising one side alone cannot fully meet the needs of 2E

students and can hinder them from reaching their full potential. The paradoxical characteristics of 2E should be re-evaluated through a deconstructive approach (Derrida, 1976), creating opportunities for thinking that embraces differences and multiple meanings.

5.9. Chapter Summary

The findings, presented separately for students and teachers, were compared comprehensively to discern similarities and differences. The theoretical framework enabled the interpretation of practical experiences, contributing to the development and refinement of existing theoretical perspectives.

The study revealed the importance of creating inclusive environments for 2E students based on insights from both the students and teachers. The impact of power relations on defining success and disability within the neoliberal education system was discussed, advocating for a broader interpretation of academic achievement criteria to encompass diverse potentials (Ball, 2012; Demir and Done, 2022). Difficulties in socialisation, motivation, concentration, and organisational skills were identified by both teachers and students based on their experiences. Some teachers also observed overconfidence among 2E students, while others highlighted struggles in following classroom instructions, contributing insights into the educational experiences of 2E students. Concerning the strengths of 2E students, consistency was observed in responses from both students and teachers, emphasising capabilities such as having strong relationships with educators and adults and possessing advanced academic skills. The study also found that most of teachers were not familiar with the term 2E and addressed the needs and strengths of their students without explicitly classifying them as 2E. This underscores the crucial need to increase awareness and recognition of 2E (Dimitriadis et al., 2021; Younis, 2020).

CHAPTER 6. CONCLUDING REMARKS

The concept of paradox utilised in the title of the thesis was based on a presentation of the co-existence of disability and talents in the literature as paradoxical. In Baron-Cohen et al. (2011, p.275), paradox is understood in common-sense terms, as contrary to social expectations. This paradox emphasises the need to review and question society's prejudices and limiting beliefs about ability and disability. The thesis aimed to explore this paradoxical relationship in more depth and to consider how abilities can coexist alongside disabilities. The concept of paradox also features prominently in poststructuralist philosophising, and it resonates with the Vygotskian concept of incongruence.

Vygotsky's (1993) concept of incongruence refers to the incompatibility between the biological structure of the individual and the environmental conditions, and if the abilities and disabilities of 2E individuals are not identified and the necessary interventions are not undertaken, it can hinder the psychological, sociological development of these individuals and their participation in society (Bøttcher and Dammeyer, 2012). In this case, understanding the concept of paradox correctly and developing perceptions about ability and disability are essential. Moreover, it is imperative to acknowledge that there are no rigid boundaries between these exceptionalities, that each individual might have a unique combination of ability and disability. This flexible perspective allows individuals with diverse abilities to discover and develop their potential and increase their social participation.

Within the scope of this study, five 2E students provided their views on their academic and social experiences, while seven teachers shared their observations and experiences regarding the academic, social and emotional, and behavioural issues of 2E students. The study was conducted as a qualitative study using alternative data collection methods such as online interviews, considering the challenging impact of the COVID-19 pandemic process and the difficulty of accessing participants during the post pandemic period. The flexibility in these methods provided a comprehensive data collection experience in terms of managing the process and offering alternative methods of data collection for the researcher. In addition, in the analysis process, content analysis was conducted for the students' data and reflexive thematic analysis for the teachers' data, enabling an in-depth examination of the findings. The unique stories of the participants have provided deep insight into the 2E phenomenon, and

the analysis findings comprehensively represent these perspectives by referring to the complexity and diversity aspect of 2E. Furthermore, comparisons were also made between teacher and student responses, and these comparisons were evaluated in terms of consistency. In this comparison, several similarities and differences were identified. For instance, when evaluating the teacher and student responses regarding the experiences of 2E students, both students and teachers stated that the students faced challenges in socialisation, motivation, focus, and organisational skills. Additionally, some teachers mentioned that some 2E students exhibited overconfidence, while others struggled to follow classroom instructions, adding their observations about the educational experiences of 2E students. When asked about the strengths of 2E students, both students and teachers provided similar responses, such as the ability to develop better relationships with teachers and adults and possessing high academic skills. Moreover, some teachers also highlighted additional strong points of some 2E students, such as higher-order thinking, being extremely organised, having a wide vocabulary, and possessing creative writing skills. However, in contrast to the teachers' responses, some of the students reported difficulties with reading, writing and organisation. This points to the diversity of students' needs and strengths. As a result, this evaluation enabled reflection on the experiences of 2E students, both from the students' and the teachers' points of view.

The study objectives and the initially formulated research questions were addressed by employing semi-structured interview questions for the data collection, which were subsequently analysed in accordance with the research purpose. However, the issue of what support parents can offer to 2E students, which was among the original aims of the research, has been limited to the responses provided by the students. Throughout the research, it was observed that most of the teachers who participated in the study were unfamiliar with the term 2E and that they taught with an approach considering the individual needs of their students without categorising them as 2E. This finding emphasises the importance of raising awareness and recognition of 2E, as supported by various studies in the literature (Dimitriadis et al., 2021; Younis, 2020). However, barriers such as teachers' workload (Wang and Neihart, 2015), performance-focused assessment of schools based on the academic achievement of students and potential off-rolling practices (Done and Knowler, 2020) should be regarded. These barriers can lead to limited time and resources to address the individual needs of

students with SEND, including 2E students. If 2E pupils are misidentified or their disruptive behaviours are misunderstood, this may limit their access to appropriate educational support and services in the academic achievement-focused and competitive system, which may negatively impact on their academic and personal development, further limiting their opportunities for success. Accordingly, due to the pressure on teachers created by a competitive marketised education system, teachers may tend to assess students solely based on their academic achievement, which in turn may hinder their ability to develop a comprehensive understanding of their students by adversely affecting the communication with them. Therefore, it is important for policymakers to be sensitive in evaluating schools, considering the presence of students with special educational needs in mainstream schools, and develop alternative assessment approaches to enhance awareness efforts about 2E and create a more inclusive environment. In the current study, although the teachers are not familiar with the term 2E, they reported that they value students' individual differences and reflect this in their classroom practices. However, without awareness of the concept of twice exceptionality, 2E students may be at risk of being under-identified and misidentified and may exhibit average academic performance as a result of their abilities and disabilities masking each other, and in this case, the needs and abilities of 2E students may not be recognised. This demonstrates that the multifaceted and complex nature of the phenomenon 2E goes beyond the observable emotions and behaviours of the students, which indicates a need for awareness and knowledge about 2E.

The present study found that the student participants are diverse in terms of ability and disability. Accordingly, some students have multiple disabilities in addition to their strengths (e.g., ADHD and autism), which is among the study's findings. Besides abilities and disabilities, several students also report experiencing challenging circumstances (e.g., eating disorders, depression, sleep problems) and having to cope with these conditions in addition to their disabilities. Among the participants, high potential learners with autism stated that they have difficulties in meeting new people and socialising with peers. In this regard, similar findings are evident in Rubenstein et al.'s (2015) study on gifted children with autism where parents emphasised that their gifted children with autism have difficulties in social settings but recognised their children's exceptional academic performance. In the current study, gifted students with ADHD stated that they have problems with organising skills, which affected

their social and academic lives. Among the participant students, both positive and negative academic experiences are reported; this shows that 2E students may also experience academic failure. Furthermore, expecting high achievements from students who demonstrate superior abilities also may reinforce the stigmas around 2E students (Josephson, Wolfgang and Mehrenberg, 2018). The focus on high achievement might lead to an underestimation of the challenges that 2E students face due to their coexisting disabilities or differences. Their struggles in certain areas may be overlooked or dismissed, reinforcing the misconception that they should perform at a uniformly high level in all aspects (Foley-Nicpon, Assouline and Colangelo, 2013). The emphasis on high achievement can also create an inappropriate comparison between 2E students and their non-exceptional or gifted peers. This comparison may have potential to evoke a sense of inadequacy and isolation for 2E students, further reinforcing the stigma that these individuals deviate from established norms or are perceived as insufficient in certain areas (Coleman, 2001). Besides, this narrow focus may prevent educators and peers from fully understanding the unique needs and abilities of 2E students, and thereby, this incomplete understanding can perpetuate the stigma by not addressing the specific support that 2E students require to succeed (Foley-Nicpon, Assouline and Colangelo, 2013).

Within the scope of the research, the historical and philosophical foundations of disability and giftedness, which are the components of 2E, were investigated to propose an inclusive environment which can be suitable for these students. Historically, debate over whether students with SEND should be educated separately from or together with students in mainstream schools has arisen. In the Warnock Report (2005), it is recommended that these students should primarily be educated in the mainstream and that they can also be directed to special education schools or classes depending on their individual needs (Lindsay et al., 2020). The study also provided a perspective on understanding 2E in philosophical and societal contexts by exploring the ideas of philosophers of difference such as Deleuze and Guattari (1987), Derrida (1976) and Foucault (1977, 1982, 2008) on social norms, diversity, and inclusion. Accordingly, how social norms contribute to the formation of stigmas and marginalisation and how they affect people's perceptions are explored in this context. Deleuze and Guattari (1987) argue that social norms that impose predefined expectations and stereotypical thinking on individuals function as constraining forces and suppress diversity,

potentially leading to the emergence of stigma and marginalisation based on differences. It is emphasised that if individuals are perceived as deviating from the norm, exclusion can occur by suppressing the uniqueness of the individuals. In such an environment, individuals with SEND, including 2E students, may struggle to make their voices heard, have their differences acknowledged, and find a place within society. Vygotsky's (1993) secondary disability approach is also relevant in this context. The secondary disability approach suggests that society's response to the impairment or condition of individuals with SEND can be more disabling than the impairment itself. This approach emphasises that it is not only the individual's physical or cognitive differences that lead to marginalisation, but the attitudes and reactions of others (Barnes and Turner, 2000). Vygotsky's (1993) approach underscores the significance of how society responds to individual differences, and 'how constructing outsiders as "the other" produces devastating feelings of inferiority' (Smagorinsky, 2012, p.6). That is, this can occur as a result of society's failure to accept differences and perceiving these differences as stigma. In this regard, the social stigma attributed to disabilities can limit opportunities, hinder participation, and adversely affect the individuals' self-perception and development (Lloyd, 2017).

The interview questions were formed on the basis of the research questions and the research questions were evaluated in the analysis process. Therefore, consistency between research objectives, data collection methods and analysis was observed throughout the whole process of the research. In addition, the views of the teachers and students were compared, and it was evaluated whether there was a consistency between the responses. In the analysis process, the strengths and weaknesses of 2E students were identified based on the responses obtained from students and teachers. Regarding strengths, students reported characteristics such as high academic achievement, analytical thinking, and high motivation, whereas weaknesses were often related to organisational skills, difficulties in meeting new people, and challenges in reading and writing. While these responses of the students were consistent with those of the teachers, the teachers additionally observed overconfidence, difficulty in following classroom instructions, and lower academic performance. The teachers also noted that some 2E students may have higher academic achievement, be extremely organised, have better social relationships with adults and teachers, have creative writing skills and a wide vocabulary. When considering these contrasts, it is important to recognise that each student

has unique abilities and individual needs rather than generalising about 2E students (Kauffman, 2018). However, common characteristics that may arise from abilities and disabilities such as difficulties in social interaction, emotional difficulties, analytical thinking and high achievement can be assessed apart from individual characteristics and experiences (Reis, Baum and Burke, 2014).

6.1. Contributions to Knowledge

In this study, the participants' voices have been presented with clarity and consistency, providing an understanding of the experiences and challenges faced by 2E students and teachers. This emphasis on the authentic voices, feelings, and experiences of the participants constitutes a significant original contribution to the existing literature on twice exceptionality. It was observed that the participating students exhibit diverse abilities (i.e., creative writing skills) and disabilities (e.g., ADHD), facing additional challenges such as eating disorders, sleep problems and depression. However, some students also expressed that they feel stressed and pressurised by exams, which may lead to stigmas surrounding the 2E students as they are expected to show exceptional performance. It could be inferred that they are uncomfortable with the success-focused system despite their high achievement in schools. Their statements address the fact that this narrow focus on academic success can foster feelings of inadequacy and isolation among 2E students and contribute to the overlooking of coexisting disabilities and struggles in specific areas. Ultimately, the study suggests that a broader perspective is essential for better supporting 2E students in their educational journeys and promoting inclusivity.

Based on a literature review, the issues around dual or multiple exceptionalities or disabilities should be raised more in further studies to prevent misdiagnosing or underrepresentation of 2E children. Prior to diversification and development of intervention methods or programmes for these children, identification problems and misconceptions should be investigated. This study, in this respect, is considered as one of the research projects that will accelerate developments in the field.

It is predicted that this study will contribute to the literature by addressing the key points where knowledge gaps should be reduced since the literature on the subject of this research

is limited. Data collection processes were managed according to COVID-19 pandemic conditions and the accessibility of participants, and the sample was shaped considering the prevalence of 2E school children in the UK. In this regard, this is a research project that demonstrates flexibility in response to the circumstances which might affect the course of the study. It should be noted that alternative data collection methods, such as online surveys or remote interviews, may need to be implemented to ensure the continuation of research activities in exceptional situations. Hence, the current study can serve as a valuable example for future studies facing unforeseen challenges.

Studies on 2E have generally focused on identification issues and the characteristics of these students (Barber and Mueller, 2011; Ritchotte and Zaghlawan, 2019). However, this research offers a different perspective on 2E by not only examining the general characteristics and diagnostic challenges of 2E students but also theorising based on real-life experiences as empirical data and establishing connections with existing theories. The current research argues that the awareness of 2E and efforts to identify and intervene with students need to be approached more comprehensively, not only in an educational context but also by pointing to historical, social, and philosophical considerations. This necessitates a wider adoption of the concept of twice exceptionality in various domains and a recognition of the need for a more inclusive understanding which extends beyond the awareness of 2E. Therefore, this study, which approaches the 2E phenomenon from a different perspective, contributes to the existing body of knowledge and helps to enrich the academic literature in this field. This may enable future researchers and educators to conduct more productive studies in this field.

As a result of the literature review, it was concluded that there are limited studies conducted on 2E in the UK context. This study is therefore seen as an important step in highlighting the sensitive issue of 2E and promoting efforts towards finding solutions. The study also provides valuable insights and suggestions for future research in the field of 2E and on how to improve the problems in educational policy in England, where the data is represented, such as the assessment system of schools and the workload of teachers as stated earlier. Although the data is not representative of the educational experiences in Wales, Scotland and Northern Ireland, the study provides a comparative overview of the policies and practices relating to special education and gifted education in both England and the countries above as well. National level policies, beginning with the 1944 Education Act, and including the 1978

Warnock Report (Norwich, 2019), and international declarations such as the Salamanca Statement (UNESCO, 1994), played a crucial role in broadening the scope of inclusive education, providing a basis for embracing diversity and for better supporting students with diverse special needs. In this context, this study highlights how critical the development of inclusive education is for 2E students and emphasises the need for greater awareness and support in the education system for this particular group of students.

Although the number of participants is limited, the empirical data in this study is valuable in that it reflects the views and experiences of 2E students and teachers regarding their educational process and social life. When focussing on vulnerable groups of learners, including 2E learners, the direct views of 2E participants are of great value in understanding their experiences. The current research not only promotes inclusivity but also serves as a roadmap for generating appropriate solutions and implementing tailored approaches that address the unique circumstances of 2E students. As the study offered an opportunity to give voice to the needs of the 2E learners and the challenges that they face, it may provide important data for future research in this area and a foundation for better understanding of the educational and social experiences of the 2E students in English education system.

While the research questions were formulated using a deductive approach, inductive findings were also included in the research findings. Findings consistent with the literature, such as the masking effect (Assouline et al., 2006), and individual experiences were highlighted by examining the effect of twice exceptionality on students' experiences, social relationships, and academic achievement.

6.2. Responses to the Research Questions

The answers to the research questions aim to contribute significant insights from both academic and practical perspectives, with the overarching goal of expanding knowledge in the relevant field. As the questions at interview were based on the research questions, the research questions were answered comprehensively. The responses indicate a general consistency between students and teachers (i.e., challenges in socialising, organisational skills, and strengths in good relationships with teachers and adults). This thesis has examined the social and academic experiences of 2E students within a historical, socio-cultural and

philosophical framework, understanding and addressing the gaps in the existing literature. It has identified the challenges they face, such as isolation, by investigating the underlying reasons and providing a comprehensive perspective through in-depth analysis.

With reference to the primary research question, it can be concluded that in order to understand the experiences of 2E students in academic and social settings, there is a need to embrace diversity in education and reduce stigmatisation of students with special needs, including 2E students, by facilitating understanding of their social and educational needs. Additionally, the answers to the sub-research questions are as follows:

Sub-questions:

RQ 1: How does a twice exceptional (2E) student who is both highly able and challenged relate to their peers in the classroom and social settings?

The results of the study show that participating students have better social relationships with teachers, adults, and peers with whom they share similar interests.

RQ 2: What kind of challenges do these learners face in a school environment?

The problems in focusing, organizational skills and writing are seen to be prominent as the challenging experiences that participating 2E students have in the school environment.

RQ 3: What are the situations influencing the academic success of twice exceptional students?

Exam stress is seen to be a factor affecting academic achievement. This has been more difficult for a participating 2E student with autism who has difficulty in expressing and regulating his emotions.

RQ 4: What is the relation of a 2E student to his/her family members?

Participating students generally reported that their families were supportive and provided a supportive learning environment.

RQ 5: What kind of challenges do 2E students confront in daily life?

The fact that a 2E student with ADHD reported that she has difficulty to sustain a long conversation, while 2E students with autism reported challenges in meeting new people, points to difficulties in the social and everyday areas.

RQ 6: What are the strengths and weaknesses that 2E students think they have?

While participating students have strengths such as high academic achievement, creativity and crisis management, they have weaknesses in areas such as exam stress, time management and focus.

RQ 7: What are the intervention efforts for 2E students and how do 2E students think teachers and parents support them?

Participating teachers reported supporting individual students, being less prescriptive, assigning different tasks and focusing more on students' strengths. In addition, the students also reported that their parents contributed to their emotional well-being and created an environment for academic success, which helped them to build positive relationships.

RQ 8: What are the difficulties of educating 2E students as experienced by teachers and other education professionals?

Participating teachers noted that 2E students struggle to follow classroom instructions, indicating a challenge in classroom management for them. They also stated that they faced difficulties with their colleagues and others who hold misconceptions and prejudices about their 2E students, leading to negative experiences.

RQ 9: What, if any, are the emotional and behavioural issues that 2E students have?

According to participating teachers, 2E students have social emotional difficulties such as low self-esteem and self-confidence. In addition, teachers reported that some 2E students had overconfidence, while the students had good relationships with them.

6.3. Limitations

The present study has several acknowledged limitations that affect findings. These limitations arise from the post-COVID-19 period, demographic characteristics of the participants, sample size, data collection methods, and the scope of the study. The COVID-19 pandemic and the post-pandemic period disrupted data collection and participant recruitment, which reduced the available sample size for study. The increased responsibilities and workload of school administrators in the post-COVID-19 period hindered the support for research projects. In

addition, privacy concerns of schools limited data access, creating difficulties in reaching potential participants. However, the diverse data collection tools adapted to the pandemic conditions mitigated the difficulties experienced during the process of participant recruitment, by providing flexibility. The limitations beyond these issues are as outlined below.

Firstly, though students from various educational levels and types were involved in the research, the restricted number of participants from each school type may limit the comparability of the students' findings. The participation of only one student from grammar school, high school, and undergraduate settings limited the possibility of making comprehensive comparisons across different types of educational institutions. More student participants from each category of school would enable a more comprehensive understanding of the impact of school type and education level on the experiences of 2E students.

Secondly, although this study includes different demographic characteristics such as gender and age, the lack of different genders or age groups within the same educational level limits demographic comparison and a detailed examination of the experiences of participants in a particular age or gender group. For example, the lack of different genders and ages of students at master's degree and undergraduate levels restricts the examination of gender and age factors in the social and educational experiences of 2E students and interpretation of the results.

Thirdly, the data collection process also has limitations. All five student participants were interviewed via zoom and in person. However, four of the seven teachers were interviewed, and the remaining three teachers completed a questionnaire form instead which did not provide as much data as the interview itself. For example, some teacher participants did not answer some questions fully in the interview form and left some questions unanswered, which resulted in a loss of data richness compared to interviews. Therefore, inconsistencies in responses and unanswered questions in the questionnaire forms of some teachers further limited the interpretation of the findings.

Fourthly, this study relies solely on the data collected through a questionnaire form and single-session interviews. While these methods provide valuable insights, they may not

capture the full complexity and nuances of the experiences of 2E students. Employing additional data collection methods such as observations could have offered a more comprehensive understanding of the subject.

Fifthly, the study's sample is limited to participants from two cities, namely London (one student) and Plymouth (seven teachers and four students), which may restrict the representativeness of 2E in the UK context since teacher-student experiences only include educational policy and practice in England. Including more participants from a wider range of cities or regions would have provided a more representative sample.

Sixthly, the research encountered difficulties when attempting to involve higher education teachers as participants, leading to a noticeable demographic contrast between student and teacher participant groups. The primary reasons for this decision were constrained access and possible time limitations. Despite recognising this limitation, it is advisable for future studies to involve lecturers from higher education to achieve a more thorough comprehension.

Furthermore, the limited number of existing studies on 2E in the UK poses a challenge in comparing the findings of this study with other research. However, since the findings represent real-life experiences in this study, the linking of these practical findings with relevant theories provides novel insights.

Lastly, the study's participants primarily consist of students and teachers, with the involvement of only one student's parent in the interview process. The exclusion of other parents' perspectives limits the comprehensiveness of the study's findings, as parental insights could offer valuable additional information. The intention of including parents in the research could not be realised due to the initial difficulties encountered in reaching the student and teacher participants, as well as the significant amount of time required to effectively engage and involve the current participants in the research process.

In conclusion, while this study contributes valuable insights into the social and educational experiences of 2E students, it is essential to acknowledge and consider the aforementioned limitations. Future research endeavours should strive to address these limitations by incorporating larger and more diverse samples, employing multiple data collection methods, and including a wider range of participants to enhance the richness of the findings.

6.4. Recommendations

This study aimed to present a comprehensive approach to the 2E phenomenon, recognising additional conditions and individual differences, as well as the strengths and weaknesses of 2E students. However, Florian and Beaton (2018) warn that the emphasis on individual differences can risk marginalisation, undermining opportunities for social inclusion and collaboration within the community. Therefore, when considering the issue of inclusion of 2E students, which this research focuses on, some consideration should be given to the scope of inclusive pedagogy (Florian and Beaton, 2018). The inclusive pedagogical approach was developed acknowledging that differentiation based on individual needs can be problematic when it draws attention to differences between students (Allan, 2006). Accordingly, inclusive pedagogy aims to create a learning environment in which all students develop a sense of belonging and actively participate. This approach seeks to provide support tailored to students' individual needs while minimising the risk of marginalisation (Florian and Black-Hawkins, 2011). Consequently, when students personalise their learning process, they may feel isolated from society, and this may lead to failures in inclusion (Florian and Beaton, 2018). The risk of isolation should therefore be considered when emphasising the diverse characteristics of 2E students. To promote inclusion, guidance should be provided for 2E students to engage with individuals who are more able in the area of giftedness and are skilled in developing relationships with those finding social relationships difficult by facilitating communication and creating environments that support their learning journeys.

It is advocated in the current research that diversification of the needs and strengths of 2E students is not an effort to other (Levinas, 1981) but rather to seek tailored support to meet those needs effectively, promoting their successful inclusion into a broader society. In this context, it is crucial for schools to adapt their practices to effectively address students' needs and provide support for their strengths. In the context of difference, Deleuze and Guattari (1987) argue that the complex interplay of differences in inclusive education underscores the importance of recognising diversity and treating it as a fundamental strength rather than a division between individuals. The objective of embracing and accommodating these diversities is not to marginalise individuals but, instead, contributes to a richer and more vibrant society where all individuals are valued for their unique contributions. Adapting

educational practices to address the needs of 2E students should not be considered as an attempt to isolate but as an integral part of a more inclusive educational environment.

It is recommended that future studies on 2E should be conducted with more comprehensive and diverse sample groups. Further research on 2E students of different age groups and from various socio-economic backgrounds can help understand the different needs and experiences of these students. The subject of 2E should not be reduced merely to the intersection of giftedness and disability, and the possibility of different needs should also be explored. Additionally, future studies should not solely focus on teacher awareness but can also involve parents to work on societal awareness of 2E. Twice exceptional learners can exhibit low, average, or high academic performance in educational settings and it is therefore crucial to support 2E students effectively by focusing on their strengths and needs rather than imposing high academic expectations on them.

Policymakers can encourage researchers to conduct more research on 2E by allocating funds for research projects and creating an academic incentive package (Younis, 2020). This illustrates how further research efforts should be carried out, emphasising the necessary motivation and encouragement for the researchers. Considering the diverse interests, talents, and disabilities of 2E students, the issue of 2E should be addressed through a multidisciplinary approach by researchers, experts and teachers in special education, and other stakeholders from various disciplines such as psychology and physiotherapy.

Developing policies, programmes, and curricula concerning 2E students is required to address their unique needs and provide tailored support for their diverse abilities. However, before implementing these, social awareness and theoretically informed knowledge should be raised by informing schools about 2E and conducting more studies in the field. It is anticipated that increased awareness of 2E will then be easier to integrate into policy. SENCOs, Learning Support Coordinators (LSCs) in Northern Ireland and Additional Learning Needs Co-ordinators (ALNCOs) in Wales, local authorities in Scotland, special education teachers, gifted education teachers and researchers should co-operate to provide seminars for both parents and teachers on 2E. Following such informative sessions and trainings, 2E action plans can be developed within schools. Collaboration between researchers and schools can be one of the ways to increase the awareness about 2E. For this reason, researchers should share their 2E

studies with schools in the form of reports, ensuring parents are also informed about the reports, thus contributing to awareness.

Another approach to increasing 2E awareness is to use the media to present a perspective that highlights not only the talents but also the weaknesses of famous scientists and artists who are 2E to challenge the perception of established talent in society. In England, the limited number of associations and organisations catering to 2E students has been observed, and researchers and educators can call on entrepreneurs for more initiatives to establish foundations, associations and organisations for 2E. Twice exceptional individuals should not be reduced to school environments; rather, the term 2E and the existence of 2E people should be considered in all areas of life such as business life, media and social relations. Further studies on 2E should not be limited solely to the educational contexts; researchers from diverse fields should also contribute to societal awareness by working on 2E.

Although 2E is an international subject as the literature includes studies, particularly from US, Australia and European countries, the current study analysed 2E in England in terms of data and compared the policy, practice and historical processes relating to special education, giftedness and 2E with those of the other nations in the UK. However, the limited literature on 2E in the UK has influenced the scope of this assessment, so there is a need for further research on 2E with data collected from Wales, Scotland and Northern Ireland, as well as England, in order to make a comparison in terms of academic experiences. These studies are seen as significant steps towards increasing the understanding and awareness of 2E in England where the data of this study is represented and other nations in the UK and developing educational policy and programmes for 2E pupils in the country.

6.5. Chapter Summary

The reported research explored the paradoxical co-existence of disability and talents in individuals, challenging societal expectations and prejudices. Five 2E students and seven teachers provided valuable insights through qualitative methods, following the difficulties posed by the COVID-19 pandemic. Both content and reflexive thematic analysis revealed the diverse experiences of 2E individuals and teachers, offering a better understanding of the unique challenges and opportunities faced in social and educational settings. The risk of

under-identification and misidentification of 2E students was highlighted, emphasising the need for awareness and knowledge about this complex phenomenon.

Conducted under pandemic conditions, the research showcased flexibility in data collection methods, offering a model for future studies facing similar challenges. Unlike most previous studies focused on identification, this research incorporated real-life experiences, connecting them to existing theories and advocating for a comprehensive approach to 2E awareness. Several limitations stemming from the post-COVID-19 period, including participant demographics, sample size, data collection methods, and study scope were acknowledged by recognising their potential influence on the research outcomes. The absence of perspectives from lecturers in higher education and parents, and the limited number of existing studies on 2E in the UK, led to challenges in comparison of the data.

The research suggested future studies with a more comprehensive and diverse sample in the UK, exploring different age groups and socio-economic backgrounds. Additionally, the study recommended developing policies, programs, and curricula tailored to 2E students' unique needs.

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APPENDICES

Appendix 1: Gantt Chart and Study Plan

Activity	YEAR ONE (2020/2021)				YEAR TWO (2022)			YEAR THREE (2023)		
	O/N/D	J/F/M	A/M/J	S/O/N/D	J/F/M	A/M/J	S/O/N/D	J/F/M	A/M/J	J/A/S
Reading										
1Participating in Endnote, Research Integrity, Library Services, Research Skills, LaTeX, PhD Research Conference Training, Nvivo and ethics training										
Define project scope, deliverables, pilot study, structure thesis & project title										
Submit RDC1										
Ethics Application										
Process of recruiting participants										
Second literature review identify existing theories and frameworks for thesis										
Refine Research Gap & Research questions										
Milestone for theoretical Part										
Write first theoretical chapters and Submit RDC 2										
Design of Methodology										
Data Analysis										
Re-writing and adapting theoretical chapters										
Milestone for empirical Part										
Development of refined questioning										
Research building on research findings										
Derivation of findings & Conclusion										
Submit RDC 3										
Re-Drafting each Chapter										
Draft Thesis for Review by Supervisor										
Incorporate Review and Comments										
Thesis Submission										
Viva voce preparation, viva voce, corrections and publication.										

Appendix 2: Data Management Plan

AN INVESTIGATION OF EXPERIENCES OF HIGH POTENTIAL AND TWICE EXCEPTIONAL STUDENTS (2E) IN ENGLISH SECONDARY SCHOOLS

Lead organisation: University of Plymouth

Primary Researcher: Yunus Emre Demir (PhD student - MPhil/PhD Education)

Director of Study: Dr Elizabeth Done

Second supervisor: Janet Georgeson

1. The Research Abstract

The proposed research will investigate the subject of twice exceptionality in high potential students and shed light on the characteristics of these 2E students based on individual experiences in social and educational settings. The experiences of twice exceptional (2E) students (those with both gifts or high potential and challenges or additional needs) will be investigated through a qualitative methodology. The aim of the proposed research is to reveal and explore the experiences of, and challenges faced by, high potential and twice exceptional students using semi-structured interviews with both students and their teachers as a data collection tool. As the research involves collecting specific data by in-depth interviewing from a small sample of 5 or 6 students studying in secondary schools located in Plymouth, these results might not be generalisable at this point (Mihalache, 2010). The project will also compare the concept of twice exceptionality in high potential learners with co-existing situations requiring additional support (e.g. learning difficulties, poor social skills or anxiety). Accordingly, the study will contribute to better identification of highly able children's twice exceptionalities and reveal the experiences that they have in their social and academic lives.

2. Data Collection

Semi-structured interview schedules used in qualitative research as data collection tool will be prepared and used with both students and their teachers in secondary schools located in Plymouth. However, the data collection process has been designed to take account of current

and possible future restrictions linked to the COVID-19 pandemic. Accordingly, interviews can be conducted through written questionnaires that participants will complete online or at school setting and through face-to-face virtual meetings depending on the ever-changing COVID-19 situation and the conditions of participants. In addition, consent forms and information sheets will be prepared and offered to each participant to sign prior to collecting data from schools as a required ethics procedure of both the University of Plymouth and the British Educational Research Association (BERA 2018).

Data obtained from oral or written interviews will be tailored to each participant and according to the conditions of the COVID-19 pandemic. Audio recordings will be fully transcribed and anonymised. However, there will also be some written semi-structured questionnaires available to participants who prefer this to a verbal interview. The data will be processed using Nvivo qualitative data analysis software and will be held securely on the University of Plymouth's One Drive for a period of ten years, in keeping with the university's policy. Sensitive personal data, except for specific child protections concerns, will be kept absolutely confidential by being followed appropriate procedures.

3. Data quality, formats, standards documentation

To provide high-quality data, the transcriptions of the audio files and written documents will be anonymised based on the principle of privacy of personal data. In accordance with the UKDA (UK Data Archive) standards, description of data, annotation, contextual information and documentation will be clear with regards to data quality.

Participants will be referred to by a nickname or codename and participation in the study is on a purely voluntary basis. Lastly, data to be collected will only be used for the purpose of the research (BERA, 2018).

4. Planned quality assurance and back-up procedures (security/storage)

4.1. Quality assurance:

The quality of content and data management of the project will be checked by the supervisory team at the university before the study is carried out. Supervisors will also be asked to review and evaluate the data collection, methodology and ethics applied in the research in terms of conformity to university guidelines.

4.2. Data Storage

Individual Microsoft OneDrive provided by the University of Plymouth for researchers will be an ideal data storage platform during the research process. OneDrive accessed by only university students allows the users to store, share and back-up files securely. Accessing data or files in the system requires a unique individual password and log in procedure.

4.3. Data Sharing and Reuse of Data

Data sharing will be available primarily with supervisors through OneDrive for the purposes of this study only. If, for example, a student discloses information that implies a safeguarding issue such as harm, abuse and radicalisation, as a researcher I am aware of my duty of care and will report the incident to relevant parties in line with the safeguarding policy of Plymouth University and considering data management procedures.

4.4. Copyright and intellectual property ownership of the data

The intellectual property of the data generated will remain with the researcher. However, data obtained from the study that is reported in the thesis will be made openly available through the university's repository 'PEARL'.

5. Ethics and Legal Compliance

Informed consent:

A participant information sheet (PIS) will be given each adult participant to inform their decision as to whether they would like to volunteer for the interview. Those wishing to participate are required to sign, date and initial an informed consent form (paper or electronic).

Parents of students under the age of 18 will sign a consent form to permit their children to participate in the project, while another consent form will be required for the schools.

Anonymisation:

Names of participants will not appear on any documentation other than a securely stored list allowing the researcher to identify participants and their data will be encoded as P1, P2.

Legal compliance:


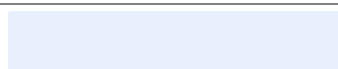
Participants will be informed of what to do if they disclose that they have any safeguarding issues about themselves.

6. *Responsibilities*

As a primary researcher, I will have an overall responsibility to implement the data management plan. Also, the IT team at the university will be responsible for technical issues such as data security and correct assigning of electronic file permissions.

Appendix 3: Researcher Safety and Risk Assessment Form

Risk Assessment Form


Assessment Ref. No.	FREIC CODE 2780	Activity Assessed	Individual interviews involving children with high potential and twice exceptional
Assessment Date	15.06.2021	Faculty / Directorate	Plymouth Institute of Education
Assessor	YUNUS EMRE DEMIR	School / Service	University of Plymouth
Version No.	2	Additional individuals involved in developing the RA	N/A
Signature of Assessor		Signature of Academic Supervisor / Approver	

Risk Score Matrix							Risk Score and Description			
Likelihood	Severity						Risk Score	Risk Level	Category	Description
		Insignificant	Minor	Moderate	Major	Fatal				
	Very Unlikely	1 Green	2 Green	3 Green	4 Green	5 Amber	1 – 4	Low	Acceptable	No further actions needed
	Unlikely	2 Green	4 Green	6 Amber	8 Amber	10 Red	5 – 9	Medium	Tolerable/Adequate	Should be reviewed to ensure that there is nothing else which could be done
	Possible	3 Green	6 Amber	9 Amber	12 Red	15 Red	10 – 15	High	Undesirable	Immediately review current control measures, and where appropriate decide on further actions
	Likely	4 Green	8 Amber	12 Red	16 Red	20 Red	16 – 25	Very High	Unacceptable	Stop activity and make immediate improvements
	Almost Certain	5 Amber	10 Red	15 Red	20 Red	25 Red	Likelihood (L) x Severity (S) = Risk Score (RS)			

What is/are the hazard(s) involved with the activity being undertaken?	Who might be harmed and how?	What are you already doing to control the risk?	Risk Score with current controls in place			What further action is necessary? (Add these actions to the action plan below).	Target Risk Score Likelihood x Severity = Risk Score		
			L	S	RS		L	S	RS
During the interview, participants might feel emotionally upset because of	High potential and twice exceptional children. Participants' emotions	During the interview sessions, enough break time will be given to avoid fatigue and think	1 - Very Unlikely	1 - Insignificant	1 - Low Risk	If any mental-wellbeing issue emerges during an interview, I will stop conducting the interview with	1 - Very Unlikely	Choose an item.	1 - Low Risk

their experiences regarding the specific questions which are going to address in the interview.	might be influenced by the interview questions.	more related to the questions. In the event of students becoming distressed, I will refer them to the school's pastoral team.				children. If children prefer to fill the questionnaire form instead of having interview, they will fill the form under my or their teachers' supervision. So, if something emotional happens during filling the form or having an interview, their teachers or I will direct them to the Well-being Service in their own school.If I am absent during the time children fill the form, their teachers will be able to mentor them in the school. If children have to have interview or fill the form at homes, I will talk to their parents first so that their parents could guide them if something unexpected happens.			
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Appendix 4: Ethics Application Form

 UNIVERSITY OF PLYMOUTH Plymouth Institute of Education FACULTY OF ARTS AND HUMANITIES Education Research Ethics and Integrity Sub-committee APPLICATION FOR ETHICAL APPROVAL OF RESEARCH		(For EdRESC use only) Application No:	
		Chairs action (expedited)	Yes/ No
		Risk level -if high refer to UREC chair immediately Cont. Review Date	High/ low / /
		Outcome (delete as necessary)	Approved/ Declined/ Amend/ Withdrawn
ALL PARTS OF THIS FORM MUST BE COMPLETED IN FULL IN ORDER TO GAIN APPROVAL. Please refer to the guidance notes.			
Part A: PROJECT INFORMATION			
1.	Investigator: Yunus Emre Demir	If Student, please name your Director of Studies or Project Advisor: Dr Elizabeth Done Course/programme: Phd- Education School/directorate (if not PloE): PloE	
	Contact Address: 119 Alexandra Works, Mutley, PL4 7DU		
	Tel: 07739 143611	E mail: d.yemre25@gmail.com	
2.	Title of research: 'An Investigation of Experiences of High Potential and Twice Exceptional Students in English Secondary Schools'		
3.	Nature of approval sought (Please tick relevant boxes) *Note 2		
	a) PROJECT: <input checked="" type="checkbox"/>	b) TAUGHT PROGRAMME (max. 3 years): <input type="checkbox"/>	
	If a,) please indicate which category:		
	Funded/unfunded Research (staff) <input type="checkbox"/>	Undergraduate <input type="checkbox"/>	
	MPhil/PhD, ResM, BClIn Sci, EdD <input checked="" type="checkbox"/>	Or Other (please state) <input type="checkbox"/>	
	Taught Masters <input type="checkbox"/>		
4.	a) Funding body (if any): b) If funded, please state any ethical implications of the source of funding, including any reputational risks for the university and how they have been addressed. c) Do you need a formal letter of approval for your funding body? Yes <input type="checkbox"/> No <input type="checkbox"/>		
5.	a) Duration of project/programme: 3 years	b) Dates: From: 1 Oct. 2020	To: 30 Sept 2023
6.	Has this project received ethical approval from another Ethics Committee?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	a) Committee name: b) Are you therefore only applying for Chair's action now?		
7.	Attachments (if required): a) Application/Clearance (if you answered Yes to question 6) Yes <input type="checkbox"/> No <input type="checkbox"/> b) Information sheets for participants Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> c) Consent forms Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> d) Sample questionnaire(s) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> e) Sample set(s) of interview questions Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> f) Continuing review approval (if requested) Yes <input type="checkbox"/> No <input type="checkbox"/> g) Other, please state:		
*1. Principal Investigators are responsible for ensuring that all staff employed on projects (including research assistants, technicians and clerical staff) act in accordance with the University's ethical principles, the design of the research described in this proposal and any conditions attached to its approval. *2. In most cases, approval should be sought individually for each project. Programme approval is granted for research which comprises an ongoing set of studies or investigations utilising the same methods and methodology and where the precise number and timing of such studies cannot be specified in advance. Such approval is normally appropriate only for ongoing, and typically unfunded, scholarly research activity. *3. If there is a difference in ethical standards between the University's policy and those of the relevant professional body or research sponsor, Committees shall apply whichever is considered the highest standard of ethical practice. *4. Approval is granted for a period of three years in the first instance. Further approval is necessary for any extension.			

8	<p>If you are staff, are there any other researchers involved in your project? Please list who they are, their roles on the project and if/how they are associated with the University. Please include their email addresses.</p>
	<p>If you are a student, who are your other supervisors?</p>
	<p>Dr Jan Georgeson</p>
	<p>Have you discussed all ethical aspects of your research with your Director of Studies prior to submitting this application? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
	<p>Background (200 words): <i>concisely explain the research area including references, and, where appropriate, relevant policy and practice developments or professional agendas.</i></p> <p>The term of twice exceptionality in students refers to having both high potential or talents and disabilities simultaneously. Twice exceptional (2E) students experience difficulty in some areas, <u>e.g.</u> writing, reading, and attention (Baum, et al., 2017). However, they can perform outstandingly in-class activities that involve high order thinking or problem-solving; such activities permit these students to excel and to demonstrate their talents (Baum and Owen, 1988).</p> <p>The disabilities of high potential 2E students may mask their talents (Reis, et al., 1997) and, conversely, being highly able can obscure these disabilities. This opacity might lead to misdiagnosis of 2E students or deprive them of a special educational needs diagnosis where they are not identified as highly able children with difficulties (Assouline, et al., 2006).</p> <p>Previous studies mostly report that learning disabilities can be seen as a twice exceptional state only in able children, while recent research has shown that other conditions excluding learning difficulties, e.g. attention deficit and hyperactivity (ADHD), autism spectrum disorder (ASD) and physical or social/emotional disorders such as depression, loneliness, anxiety and deficit of social skills, might also be co-morbid conditions to being talented (Anderson et al., 2018; Renzulli and Gelbar, 2020).</p>
9	
a)	<p>Aims and objectives: <i>State what your study will achieve, key findings and any hypotheses. Include how you anticipate the fulfilment of the aims and key questions will move forward knowledge and where appropriate, policy or practice.</i></p> <p>The proposed exploratory research will investigate the experiences of 2E students (those with both gifts or high potential and challenges or additional needs) through a qualitative methodology. The aim of the research is to reveal and explore the experiences of, and challenges faced by, high potential and 2E students using semi-structured interviews with both students and their teachers as a data collection tool. The study objectives are as follows:</p>

	<ul style="list-style-type: none"> ➤ To reveal what teachers and parents of 2E students provide for the students to enable them to adapt, and whether and <u>how intervention</u> efforts responding to their needs are effective and imply mutual or contextual adaptation. ➤ To discover what kind of experiences 2E students have and whether and how their being 2E affects their daily life or social relations (<u>e.g.</u> being labelled, being bullied at school, having depression and anxiety, etc.). ➤ To investigate to what extent being a 2E student affects academic achievement, <u>e.g.</u> lack of motivation, poor organising skills or lower performance despite their abilities, and how these students overcome any issues (e.g. receiving additional support from guidance services provided by the school). ➤ To indicate whether the challenges experienced by 2E students in every area of life can hinder their high potential ability and academic success.
b)	<p>Methods: <i>explain how participants will be recruited (where, by whom, how many; inclusion and exclusion criteria), what data will be collected, how it will be analysed (statistical tests, sample size considerations). This should include references of the particular methodology being used; how it will be employed in relation to this study; which techniques of analysis will be used once data <u>are</u> collected and how this will be applied to the particular data <u>set</u></i></p> <p>1. Research Design</p> <p>The research design is intended to take account of current and possible future restrictions linked to the Covid-19 pandemic. The research will be conducted using an exploratory qualitative approach to a problem whose definition is still unclear.</p> <p>2. Sampling and Participants</p> <p>A total of 5 or 6 male and female highly able and 2E students whose ages range from 11 to <u>16, studying</u> at secondary schools located in Plymouth will be included in the study. Furthermore, students' teachers will also participate in the study and complete semi-structured interviews relating to students' in-class behaviours or academic success. Student participants will be selected through a purposive sampling method which is useful for qualitative studies to provide a diversity of participants in conformity with the criteria of this research (Patton, 2008).</p> <p>3. Data Collection Tools</p> <p>Semi-structured interviewing is considered as an appropriate method for data collection in education studies by reason of offering flexibility to researcher and participants (Creswell, 2013). A questionnaire form containing open-ended questions about communication with their environment and peers, and how they manage any difficulties that they <u>experience will</u> be given students to fill out. However, If participants are not <u>available due</u> to personal</p>

	<p>conditions such as dyslexia or do not accept to fill the form, having an interview (face to face or <u>virtual depending on Covid-19 restrictions</u>) will be offered as an alternative and the same research questions on the form will be asked in case they are eager to take part in the study.</p> <p>Another questionnaire form for teachers will <u>be used</u> as a data collection tool, enabling teachers to discuss their observations of students in social situations as observed in classes and their academic achievements. Accordingly, teachers will also be able to choose to have interview optionally with the same questions on the form as students, depending on personal preference.</p> <p>4. Data Analysis</p> <p>Content analysis is employed as a data analysis method in qualitative research to interpret data and to identify themes. A content analysis of interview transcripts will be undertaken to examine the data derived from 2E students and teachers who may observe and witness 2E students experiencing difficulties inside the classroom (Polit and Beck, 2006). Prior to categorisation of data collected in content analysis, a coding and classification process is carried out in accordance with the responses of participants (Gay, Mills and <u>Airasian</u>, 2009). Thus, coding frames will be <u>constructed</u> and key themes will be identified in each data set (obtained from the interviewed teachers and students). Descriptions and comments will be illustrated through verbatims (direct quotations).</p>
10.	<p>Anticipated findings and their relevance:</p> <p>Findings will be relevant as this is an under-researched area.</p>
11.	<p>When do you need/expect to begin the research methods for which ethical approval is sought?</p> <p>April 2021</p> <hr/> <p>How long will this research take and/or for how long are you applying for this ethical approval?</p> <p>3 years</p> <hr/>
12.	<p>Participant Information, Consent and Debrief.</p> <p><i>Please attach the information requested below for participants. This should include, in lay language, the nature and purpose of the research and participants' right to withdraw. You will have the option to upload more than one document if required.</i></p>
13.	<p>Participant Contact - Queries, Concerns or Complaints</p>

	<i>All participants should be given a Participants' Information Sheet which gives details of a named person to whom they can address any queries concerns or complaints, in the first instance, or whom they can inform if they wish to withdraw. This will be a member of the research team, normally the Principal Investigator or Director of Studies if applicable on the project. Participants should also be informed of a contact to whom a complaint about the conduct of the research may be directed. This will normally be the Research Administrator to the Faculty Research Ethics and Integrity Committee.</i>
13.	<p>GDPR</p> <p>Please familiarise yourself with The Data Protection Policy Summary. The University has a suite of mandatory e-learning courses for staff accessed by Employee Self-service. Research students will also be required to complete the GDPR training accessed using this link.</p> <p>Have you successfully completed the University of Plymouth's GDPR training? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
14	<p>Research Data Management Plan</p> <p>Please familiarise yourself with the University of Plymouth Research Data Management for Researchers page. Please attach your Research Data Management Plan, which should include how your data will be stored securely and for how long (e.g. for 10 years). It should state the level of data intended to be collected and indicate who will have access to raw, processed and <u>long term</u> stored data. Please indicate the location of stored data (short term and <u>long term</u> storage) as well as the protection in place for this data at each transfer point.</p>

Part B: ETHICAL REVIEW STATEMENT

The purpose of this statement is to clarify whether the proposed research requires ethical clearance through an Ethics Protocol. Please read the relevant section of the guidance notes before you complete your statement.

Please indicate all the categories into which your proposed research fits:

	Data collection / analysis involved:	Action required:	
1	This study does not involve data collection from or about human participants.	➤ <i>Complete this Ethical Review Statement and add a brief (one page) description of your research and intended data collection methods. Part C not required.</i>	<input type="checkbox"/>
2	This study involves the analysis or synthesis of data obtained from/about human subjects where such data are in the public domain (i.e. available in public archives and/or previously published)	➤ <i>Complete this Ethical Review Statement and add a brief (one page) description of your research, the nature of the data and intended data collection methods. Part C not required.</i>	<input type="checkbox"/>
3	This study involves the analysis of data obtained from/about	➤ <i>Complete this Ethical Review Statement</i>	<input type="checkbox"/>

	human participants where the data has been previously collected but is not in the public domain	➤ <i>Please complete Part C – Ethical Protocol</i>	
4	This study draws upon data already collected under a previous ethical review but involves utilising the data in ways not cleared with the research participants	➤ <i>Complete this Ethical Review Statement</i> ➤ <i>Please complete Part C – Ethical Protocol</i> ➤ <i>Submit copy of original ethics protocol and additional consent materials (if relevant) attached.</i>	<input type="checkbox"/>
5	This study involves new data collection from/about human participants	➤ <i>Complete this Ethical Review Statement</i> ➤ <i>Please complete Part C – Ethical Protocol</i> ➤ <i>Submit copies of all information for participants AND consent forms in style and format appropriate to the participants together with your research instruments.</i>	<input checked="" type="checkbox"/>

Please Note: Should the applicant wish to alter in any significant regard the nature of their research following ethical approval, an application for amendment should be submitted to the committee together with a covering letter setting out the reasons for the amendment. The application should be made with reference to one or more of the categories laid out in this document. ‘Significant’ should be interpreted as meaning changing in some fundamental way the research purposes and processes in whole or part.

Part C: ETHICS PROTOCOL

Please indicate how you will ensure that this research conforms to Plymouth University’s Research Ethics Policy - *The Integrity of Research Involving Human Participants*. Please complete each section with a statement that addresses each of the ethical principles set out below. Please note that you should provide the degree of detail suggested. Each section will expand to accommodate this information.

Please refer to Guidance Notes when completing this section.

1	Informed consent
a)	<i>How will informed consent be gained? Are there any issues (e.g. children/minors, learning disability, mental health) that may affect participants' capacity to consent? If so, how will these be resolved? Will research be carried out over the internet? If so, please explain how consent will be obtained.</i>
	<p>A participant information sheet (PIS) will be given to each adult participant to inform their decision as to whether they would like to volunteer for the interview. Those wishing to participate are required to sign, date and initial an informed consent form (paper or electronic).</p> <p>Parents of students under the age of 18 will sign a consent form to permit their children to participate in the project, while another consent form will be required for the schools.</p> <p>There are two options of completing a questionnaire form and having interview which will be offered to participants. Participants who think that the interview will be easier for them will be interviewed, while participants who want to fill out the form will only be given the form. The questions on both interview and the form will be the same.</p>
2	Openness and honesty
a)	<i>How will you ensure that participants are able to have any queries they have answered in an open and honest way?</i>
	The researcher's contact details will appear on all information and consent documentation and the researcher will answer any queries about the research that participants may have. No deception is involved.
b)	Deception

	<p><i>Is deception being used? Could the participants be misled or wrongly informed about the aims of the research? Types of deception include (i) deliberate misleading, e.g. using staged manipulations in field settings, deceptive instructions; (ii) deception by omission, e.g., failure to disclose full information about the study, or creating ambiguity. The researcher should avoid deceiving participants about the nature of the research unless there is no alternative and then this would need to be judged acceptable by the reviewers.</i></p>								
	<p>The research does not involve deception of any kind.</p>								
3	<p>Right to withdraw</p> <p><i>Please indicate how you will enable participants to withdraw from the study if they so wish.</i></p>								
	<p>All participants have a right to withdraw their data without giving any justification. In the event of withdrawal, participants would not be affected in any way. However, they can withdraw permission to use data within two weeks after the interview, in which case any data the participants have will be deleted. A request for withdrawal can be notified to me by e-mail and/or phone I gave the details below and on the consent form.</p>								
4	<p>Protection from Harm</p> <p><i>Indicate here any vulnerability that may be present because of the:</i></p> <ul style="list-style-type: none"> ○ <i>participants e.g. children or vulnerable adults.</i> ○ <i>nature of the research process.</i> <p><i>Does this research involve:</i></p> <table border="1" style="width: 100%;"> <tr> <td><i>Children</i></td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr> <td><i>Vulnerable adults</i></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr> <td><i>Sensitive topics</i></td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr> <td><i>Permission of a gatekeeper in place of consent from individuals</i></td><td style="text-align: center;"><input type="checkbox"/></td></tr> </table>	<i>Children</i>	<input checked="" type="checkbox"/>	<i>Vulnerable adults</i>	<input type="checkbox"/>	<i>Sensitive topics</i>	<input checked="" type="checkbox"/>	<i>Permission of a gatekeeper in place of consent from individuals</i>	<input type="checkbox"/>
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<i>Sensitive topics</i>	<input checked="" type="checkbox"/>								
<i>Permission of a gatekeeper in place of consent from individuals</i>	<input type="checkbox"/>								

	<i>Students whose coursework will be assessed by the researcher(s)</i>	<input type="checkbox"/>
	<i>Research that is conducted without full and informed consent</i>	<input type="checkbox"/>
	<i>Research that could induce psychological stress and anxiety</i>	<input type="checkbox"/>
	<i>Intrusive intervention (eg, vigorous physical exercise)</i>	<input type="checkbox"/>
	<p>If you answered yes to any of the above questions, please provide further details of these potentially ethically sensitive aspects of your research.</p> <p>An equivalent to the DBS check can be provided and a UK DBS check will be applied for.</p> <p>See Information sheet on confidentiality.</p> <p>Enquiries will be made to determine the most appropriate person for participants to contact in the event of distress or emotional upset.</p> <p>Safeguarding issues will be reported to a school Safeguarding Officer as appropriate and discussed with supervisors.</p>	
	<i>Do ALL researchers in contact with children and vulnerable adults have current DBS clearance?</i>	Yes: <input type="checkbox"/> . No: <input checked="" type="checkbox"/> N/A: <input type="checkbox"/>
5	<p>External Clearance</p> <p><i>I undertake to obtain written permission from the Head of any external institutions (school, social service, prison, etc) in which research will be conducted. (please check box) <input checked="" type="checkbox"/></i></p>	
6	<p>Participant/Subject Involvement</p> <p><i>Has this group of participants/subjects already been the subject of research in the current academic year?</i></p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
7	<p>Payment</p>	

	<i>Please provide details of any payments, either financial or in kind, made to participants for participation, compensation for time given, etc.</i>
	No payment or incentives will be offered.
8	Debriefing <i>If appropriate, describe how you will debrief participants</i>
	There will be some written semi-structured questionnaires available to participants who prefer this to a verbal interview. Semi-structured interview schedules used in qualitative research as data collection tool will be prepared and used with both students and their teachers in secondary schools located in Plymouth. Interviews can be conducted through written or oral questionnaires that participants will complete online or at school setting and through face to face virtual meetings depending on the ever-changing Covid-19 situation and the conditions of participants. The participants will be informed where they can access a summary of findings. They will also be thanked for their participation immediately before and after interview.
9	Dissemination of Research <i>Please provide a clear statement regarding what information has been provided to participants regarding dissemination of this research.</i>
	The completed PhD thesis will be available through the university online repository and findings will be presented at academic conferences and in peer-reviewed journal articles. A summary of findings can be included on the Inclusion Node website or similar.
10a)	Confidentiality <i>How will you ensure confidentiality and security of information?</i>
	All of the information collected will be treated as strictly confidential. Possibilities that individuals participating in the research can be identified will be limited. I will follow the procedures of the school in regards to health and safety and child protection. I will keep all data (signed forms, audio recordings and transcript of interviews) from my participants on the OneDrive online

	storage provided by the University of Plymouth until the end of my studentship at the university, which is for 3 years. I will only share the data with my supervisors and no one will be identified by name in this data.
b)	Anonymity <i>How will you ensure the anonymity of the participants?</i>
	Names of participants will not appear on any documentation other than a securely stored list allowing the researcher to identify participants and their data will be encoded as P1, P2.
11	Ethical principles of professional bodies <i>Where relevant professional bodies have published their own guidelines and principles, these must be followed and the current University principles interpreted and extended as necessary in this context. Please state which (if any) professional bodies' guidelines are being utilised.</i>
	<p>All participants to be included in the study will be informed of the content, purpose and methods of the research. Thus, they will be able to learn how they can contribute to this study and how they play a key role in the study to be conducted. Both parents and their children will be asked whether the students will participate in the research through a consent form to be signed prior to data collection. Interview schedules with questions related to any difficulties that students may face, prepared in an appropriate language, will be distributed to avoid labelling the students who participate in the study.</p> <p>Teachers and students, as participants, will always have a right of withdrawal from the study and interviews. Names of participants will not appear on any documentation other than a separately and securely stored list allowing the researcher to identify participants. Participants will be referred to by a nickname or codename and participation in the study is on a purely voluntary basis. Lastly, data to be collected will only be used for the purpose of the research (British Education Research Association [BERA], 2018).</p>

	Participants will also be informed of what to do if they disclose that they have any safeguarding issues about themselves.
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Appendix 5: Research Ethics Application Approval Letter



05/07/2021

Confidential

Yunus Demir

Dear Yunus Demir

Research Ethics Application Approval - Faculty Research Ethics and Integrity Committee:

2780

An Investigation of Experiences of High Potential and Twice Exceptional Students in English Secondary Schools

Thank you for the revision you have made to your application and related documents. I think they read much better now and the risk assessment clearly outlines how you will manage the potentially sensitive nature of your project. Ethical approval is therefore granted.

Approval is for the duration of the project. If you wish to continue beyond this date, you will need to seek an extension.


Please note that if you wish to make any minor changes to your research, you must complete an amendment form or major changes you will need to resubmit an application.

Yours sincerely

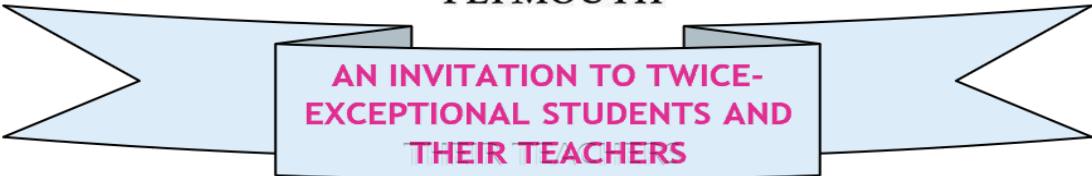
Dr Verity Campbell Barr

Chair, Faculty of Arts, Humanities and Business - Education Research Ethics and Integrity Committee

Appendix 6: Flyer



UNIVERSITY OF
PLYMOUTH



AN INVITATION TO TWICE-EXCEPTIONAL STUDENTS AND THEIR TEACHERS

What is 2E(Twice-Exceptionality)?

EXCEPTIONALITY	EXCEPTIONALITY	2E
<ul style="list-style-type: none">Exceptional ability or talent in one or more areasIntellectual giftedness	+	<ul style="list-style-type: none">Learning disabilitiesAutismAttention deficit and <u>hyperactivity</u>Emotional/<u>behavioural</u> conditionsPhysical and sensory conditions
=		<ul style="list-style-type: none">Twice-Exceptionality (2E)

We are looking for students in UK schools who have an exceptional ability or talent in one or more area, or display intellectual giftedness, AND have a diagnosis of the one or more of the following: autism, learning disability, ADHD, emotional/behavioural or physical/sensory conditions. Students need to be of secondary school age (11 to 16 years). We are also seeking teachers of 2E students to participate.

What does taking part involve?

There are two options for students and teachers to participate in my research. You can either have an online or face to face interview with me or fill out a questionnaire with just 5 questions. It is your choice and the questions in both will be the same. It is also an option to complete the form and send it to me by email. I can visit your school to explain the purpose of my research and for face-to-face interviews. These options mean you can choose the one that feels best for you.

Contact

For more info, please contact: **Yunus Demir** (PhD researcher with teaching experience in the Institute of Education, University of Plymouth)

Email: yunus.demir@plymouth.ac.uk Tel: 07739143611

Appendix 7: Family Information Sheet

AN INVESTIGATION OF EXPERIENCES OF HIGH POTENTIAL AND TWICE- EXCEPTIONAL STUDENTS IN ENGLISH SECONDARY SCHOOLS

Researcher: Yunus Emre Demir (Plymouth Institute of Education)

Director of Studies: Dr Elizabeth J. Done (PloE) elizabeth.done@plymouth.ac.uk

FAMILY INFORMATION SHEET

Dear Parents,

I am carrying out a doctoral research about the '*experiences of high potential and twice-exceptional students*' at the University of Plymouth.

Individual experiences of twice-exceptional students (those with both gifts or high potential and challenges or additional needs) will be researched through a questionnaire (distributed to both teacher/teachers and student/students) or an interview, depending on participants' preference. The study will contribute to better understanding of highly able children's twice exceptionalities and their experiences in their social and academic lives.

If you agree to your child's participation in my study, he/she will fill out an interview form about his/her experiences in both school and social settings. They will have the choice to fill out a questionnaire or be interviewed by me on zoom or face to face, also depending on Covid-19 restrictions. The questions will be the same in both cases. It is important to stress that the names of participants will not appear on any documents other than a securely stored list allowing the researcher to identify participants.

1. Why has your child been invited to take part?

Your child has been invited to participate because he/she meets the criteria of this research. I am looking at students who are both able and who need additional support due to learning disabilities, social and emotional difficulties, etc. Your child has knowledge about being a student with high potential and challenges or additional needs in their social and school life. It is important to understand the purpose of the study and what your child will contribute before consenting to their participation. Please take the time to read carefully the following information, which explains the research in more detail. If you have any other questions, please do not hesitate to contact me for more information.

2. What will happen if your child takes part?

He/she will either answer questions in a questionnaire or choose to being interviewed with the same research questions depending on your child's condition and preference. The interview can take an estimated 25 mins, while the form filling process might take up to 15 mins depending on circumstances. Please remember that the ideas and experiences of you and your child/children are always valuable to this research.

3. What are the risks and benefits of taking part?

Whilst there will be no immediate benefits but it is hoped that this work will reveal important information and contribute to better understanding of highly able and twice-exceptional students. It is my role as a researcher to ensure that participants are protected from harm. Your child's name will not appear in any documents related to the research and participants have the right to withdraw. (Please see the information on withdrawal below). I will follow all current guidelines around Covid-19 when I visit your child's school to interview and if there is another lockdown I will either send a questionnaire by e-mail for them to complete or have a virtual meeting if they agree.

4. Confidentiality

All information collected will be treated as strictly confidential and it is extremely unlikely that your child will be identifiable in research reports. I will follow the procedures of the school in regards to health and safety and child protection. All data (signed forms, audio recordings, copies of interviews) will be stored securely on the university's OneDrive online storage system until the end of my research. I will only share the data with my supervisors and no one will be identified by name in this data.

5. What will happen to the data?

Any data will be held in strict confidence and no real names will be used in this study or later publications. No identifiers linking your child or the school to the study will appear in any report that may be published. Participants will be assigned a number and be referred to by that number throughout. As above, data will be retained securely on OneDrive online storage system and I will remove the data after completion of the research project. The results of the study will be reported in my PhD thesis, in written reports, and in published articles.

6. Outcomes of the study

The data will form the basis of my doctoral studies and findings will be presented at academic conferences and in academic journal articles. It is hoped that this study will lead to better understanding of twice-exceptional students.

7. Free participation

The research is totally voluntary and whether your child participates is their own decision. There are no financial benefits from taking part in this study.

8. Right to withdraw

All participants have a right to withdraw their data without giving any justification. In the event of withdrawal, participants would not be affected in any way. They can withdraw permission to use data within two weeks of the interview and any data from them will be deleted. A request for withdrawal can be sent to me by e-mail (see details below and on the consent form).

9. Information about research funding and reviewing process.

This research is subject to continual review by my supervisory team at the University of Plymouth and my ethical procedures have been agreed by the Plymouth Institute of Education's Research and Integrity Committee.

10. Concerns or complaints

If you have any questions about the study, please contact me, Mr Yunus Emre Demir; yunus.demir@plymouth.ac.uk or my supervisors Dr Elizabeth Done; elizabeth.done@plymouth.ac.uk and Dr Jan Georgeson; janet.georgeson@plymouth.ac.uk.

If you have any complaints about this research, please contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk. If you approve of your child's participation in the research, please complete the attached consent form and, return it to me.

Thank you for your time.

Yunus Emre Demir

PhD Student, University of Plymouth

Appendix 8: Headteacher Information Sheet

AN INVESTIGATION OF EXPERIENCES OF HIGH POTENTIAL AND TWICE- EXCEPTIONAL STUDENTS IN ENGLISH SECONDARY SCHOOLS

Researcher: Yunus Emre Demir (Plymouth Institute of Education)

Director of Studies: Dr Elizabeth J. Done (PloE) elizabeth.done@plymouth.ac.uk

HEAD TEACHER INFORMATION SHEET

Dear Head Teacher,

I am carrying out a doctoral research about the '*experiences of high potential and twice-exceptional students*' at the University of Plymouth.

Individual experiences of twice-exceptional students (those with both gifts or high potential and challenges or additional needs) will be investigated through either questionnaire forms that will be distributed to both teacher/teachers and student/students or interviews, depending on participants' preference. It is hoped that the study will contribute to better identification of highly able children's twice exceptionalities and reveal the experiences that they have in their social and academic lives.

Should you wish your school to take part in my study, participants will be asked to fill out an interview form prepared separately for students and their teachers. Alternatively, they may prefer to have interview with the researcher on zoom or face to face, considering Covid-19 restrictions. The questions asked will be the same in both cases. Data reporting will be anonymous, and it is important to stress that names of participants will not appear.

1. Why have your school's teachers and students been invited to take part?

Your school will be invited to participate if you have students who meet the criteria of this research and their teachers. Students have knowledge about being a student with high potential and challenges or additional needs in their social and school life, while teachers will contribute to the study by sharing their in-class observations.

It is important to understand the purpose of this study and what will contribute before consenting to their participation. Please take time to read carefully the following information, which explains the research in more detail. However, if you have any other questions, please do not hesitate to contact me for more information.

2. What will happen if your school takes part?

By confirming that students and teachers of the school can, if they choose, participate in the study, they will either answer questions on a questionnaire form or choose to being interviewed with the same research questions. This will be depending on participants' personal condition and preference. The interview can take an estimated 25 mins, while the

form filling process might take up to 15 mins depending on their circumstances. Please remember that the ideas and experiences of you and participants are always valuable to this research.

3. What are the risks and benefits of taking part?

Whilst there will be no immediate benefits, it is hoped that this work will help me to understand participants' experiences so that teaching can be more supportive. It is my role as a researcher to make sure that no one is not harmed in any way. Participants' name will not appear in any writing related to the research. They also have the right to withdraw. (Please see the information on withdrawal below).

I will follow all the current guidelines on Covid-19 if I visit your school to interview you. If there is another lockdown, I will send the questionnaire to students/teachers by e-mail for you to complete or we could have an online meeting.

4. Confidentiality

All of the information participants give me will be treated as confidential. I will follow the rules of the school on health and safety and child protection. I will keep all data (signed forms, audio recordings, copies of our interview) on a secure online storage site at the University of Plymouth until the end of my research at the university. I will only share the data with my tutors and participants will not be identified by name.

5. What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in anything that I later publish. I will not mention the name of your school. As above, you will be given a number so only I know participants' name. The data will be securely stored on the university's OneDrive online storage system and I will remove the data after finishing my studies. The results of the study will be reported in my thesis, in written reports, and in published articles.

6. Outcomes of the study

Participants' answers will form the basis of my doctoral studies and findings will be presented at conferences and in academic journal articles. It is hoped that this study will encourage further studies globally on my topic.

7. Free participation

The research is voluntary and choosing to take part is entirely participants' choice.

8.Right to withdraw

Participants have a right to withdraw their data without giving a reason and will not be affected them in any way. They can withdraw within two weeks of the interview and I will delete their data. A request for withdrawal can be sent to me by e-mail (see consent form).

9.Information about research reviewing process.

My research is regularly reviewed by my supervisors at the University of Plymouth and my ethical procedures have been agreed by the Plymouth Institute of Education's Research and Integrity Committee.

10. Concerns or complaints

If you have any questions or concerns about the study, contact me, Mr Yunus Demir - yunus.demir@plymouth.ac.uk or my supervisors Dr Elizabeth Done elizabeth.done@plymouth.ac.uk and Dr Jan Georgeson janet.georgeson@plymouth.ac.uk.

For complaints, contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

If you agree to participate in the research, please complete the attached consent form and, return it to me.

Thank you for your time.

Yunus Emre Demir

Appendix 9: Student Information Sheet

AN INVESTIGATION OF EXPERIENCES OF HIGH POTENTIAL AND TWICE-EXCEPTIONAL STUDENTS IN ENGLISH SECONDARY SCHOOLS

Researcher: Yunus Emre Demir (Plymouth Institute of Education)

Director of Studies: Dr Elizabeth J. Done (PIoE) elizabeth.done@plymouth.ac.uk

STUDENT INFORMATION SHEET

Dear Student,

I am carrying out a doctoral research at the University of Plymouth and would like to learn more about your experiences at school and in your social life.

If you decide to take part in my study, you can choose to be asked questions by me in an interview or you can fill out a questionnaire that I will send to your teacher. The questions will be the same.

Your name and other personal details will not appear in any reports that I write.

1. Why have you been invited to take part?

I am inviting to take part in the study because I want to learn more about students who are both able but who also need some support at school.

It is important to understand the purpose of this study before deciding whether you want to take part. Please read this information sheet because it answers questions that you may have.

2. What will happen if you take part?

By agreeing to take part, you will be asked to either answer questions in a questionnaire or you can choose to being interviewed and answer the same questions. It is your choice. The interview can take an estimated 25 mins, while the form filling process might take up to 15 mins depending on circumstances. Please remember that your ideas and experiences are valuable to this research.

3. What are the risks and benefits of taking part?

Whilst there will be no immediate benefits, it is hoped that this work will help me to understand your experiences so that teaching can be more supportive. It is my role as a researcher to make sure that you are not harmed in any way. Your name will not appear in any writing related to the research. You also have the right to withdraw. (Please see the information on withdrawal below).

I will follow all the current guidelines on Covid-19 if I visit your school to interview you. If there is another lockdown, I will send the questionnaire to you by e-mail for you to complete or we could have an online meeting.

4. Confidentiality

All of the information you give me will be treated as confidential. I will follow the rules of the school on health and safety and child protection. I will keep all data (signed forms, audio recordings, copies of our interview) on a secure online storage site at the University of Plymouth until the end of my research at the university. I will only share the data with my tutors and you will not be identified by name.

5. What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in anything that I later publish. I will not mention the name of your school. As above, you will be given a number so only I know your name. The data will be securely stored on the university's OneDrive online storage system and I will remove the data after finishing my studies. The results of the study will be reported in my thesis, in written reports, and in published articles.

6. Outcomes of the study

Your answers will form the basis of my doctoral studies and findings will be presented at conferences and in academic journal articles. It is hoped that this study will encourage further studies globally on my topic.

7. Free participation

The research is voluntary and choosing to take part is entirely your choice.

8. Right to withdraw

You have a right to withdraw your data without giving a reason and will not be affected in any way. You can withdraw within two weeks of the interview and I will delete your data. A request for withdrawal can be sent to me by e-mail (see consent form).

9. Information about research reviewing process.

My research is regularly reviewed by my supervisors at the University of Plymouth and my ethical procedures have been agreed by the Plymouth Institute of Education's Research and Integrity Committee.

10. Concerns or complaints

If you have any questions or concerns about the study, contact me, Mr Yunus Demir - yunus.demir@plymouth.ac.uk or my supervisors Dr Elizabeth Done elizabeth.done@plymouth.ac.uk and Dr Jan Georgeson janet.georgeson@plymouth.ac.uk.

For complaints, contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

If you agree to participate in the research, please complete the attached consent form and, return it to me.

Thank you for your time.

Yunus Emre Demir

Appendix 10: Teacher Information Sheet

AN INVESTIGATION OF EXPERIENCES OF HIGH POTENTIAL AND TWICE-EXCEPTIONAL STUDENTS IN ENGLISH SECONDARY SCHOOLS

Researcher: Yunus Emre Demir (Plymouth Institute of Education)

Director of Studies: Dr Elizabeth J. Done (PloE) elizabeth.done@plymouth.ac.uk

TEACHER INFORMATION SHEET

Dear Sir/Madam,

I am carrying out a doctoral research project about the '*experiences of high potential and twice exceptional students*' at the University of Plymouth.

Individual experiences of twice exceptional students (those with both gifts or high potential and challenges or additional needs) will be investigated through either questionnaire forms that will be distributed to both teacher/teachers and student/students or interviews, depending on participants' preference. It is hoped that the study will contribute to better identification of highly able children's twice exceptionalities and reveal the experiences that they have in their social and academic lives.

Should you wish to take part in my study, you will be asked to fill out an interview form about your observations of students' behaviours in a class setting. Alternatively, you may prefer to have interview with the researcher on zoom or face to face, considering Covid-19 restrictions. The questions asked will be the same in both cases. Data reporting will be anonymous, and it is important to stress that names of participants will not appear on any documentation other than a securely stored list allowing the researcher to identify participants.

1. Why have you been invited to take part?

You have been invited to participate in the study because your student/students meet the criteria of this research and you are or have been their teacher. You also have knowledge of educational issues of a student with high potential and challenges or additional needs in academic life. It is important to understand the purpose of this study and what will contribute before deciding whether you and your student/students would like to participate or not. Please take time to read carefully the following information, which explains the research in

more detail. However, if you have any other questions, please do not hesitate to contact me for more information.

2. What will happen if you take part?

By agreeing to take part, you will be asked to either answer questions in a questionnaire or be interviewed and answer the same questions. It is your choice. The interview can take an estimated 25 mins, while the form filling process might take up to 15 mins depending on conditions. Please remember that your ideas and experiences are valuable to this research.

3. What are the risks and benefits of taking part?

Whilst there will be no immediate benefits, it is hoped that this work will help me to understand your experiences so that teaching can be more supportive. It is my role as a researcher to make sure that you are not harmed in any way. Your name will not appear in any writing related to the research. You also have the right to withdraw. (Please see the information on withdrawal below). I will follow all the current guidelines on Covid-19 if I visit your school to interview you. If there is another lockdown, I will send the questionnaire to you by e-mail for you to complete, or we could have an online meeting.

4. Confidentiality

All of the information you give me will be treated as confidential. I will follow the rules of the school on health and safety and child protection. I will keep all data (signed forms, audio recordings, copies of our interview) on a secure online storage site at the University of Plymouth until the end of my research at the university. I will only share the data with my tutors and you will not be identified by name.

5. What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in anything that I later publish. I will not mention the name of your school. As above, you will be given a number so only I know your name. The data will be securely stored on the university's OneDrive online storage system and I will remove the data after finishing my studies. The results of the study will be reported in my thesis, in written reports, and in published articles.

6.Outcomes of the study

Your answers will form the basis of my doctoral studies and findings will be presented at conferences and in academic journal articles. It is hoped that this study will encourage further studies globally on my topic.

7.Free participation

The research is voluntary and choosing to take part is entirely your choice.

8.Right to withdraw

You have a right to withdraw your data without giving a reason and will not be affected you in any way. You can withdraw within two weeks of the interview and I will delete your data. A request for withdrawal can be sent to me by e-mail (see consent form).

9.Information about research reviewing process.

My research is regularly reviewed by my supervisors at the University of Plymouth and my ethical procedures have been agreed by the Plymouth Institute of Education's Research and Integrity Committee.

10. Concerns or complaints

If you have any questions or concerns about the study, contact me, Mr Yunus Demir - yunus.demir@plymouth.ac.uk or my supervisors Dr Elizabeth Done elizabeth.done@plymouth.ac.uk and Dr Jan Georgeson janet.georgeson@plymouth.ac.uk.

For complaints, contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

If you agree to participate in the research, please complete the attached consent form and, return it to me.

Thank you for your time.

Yunus Emre Demir

Appendix 11: Family Consent Form

FAMILY CONSENT FORM

Project title: *An Investigation of Experiences of High Potential and Twice Exceptional Students in English Secondary Schools*

I confirm that I have read the Information Sheet offered to me about the project.

I voluntarily agree to my child taking part in this research study.

I understand that even if he/she agrees to take part now they can withdraw within 2 weeks of the interview or refuse to answer any question during the interview without giving a reason.

I understand that I can ask any questions about this study.

By signing this form I will be giving consent for:

- An interview with my child (face to face or online) to learn more about his/her experiences in school.
- Recording of my child's responses (on paper or via digital media, e.g. e-mail, online questionnaire) to the questions included in a questionnaire prepared by the researcher.

I understand that all information I provide for this study will be treated confidentially.

Name of Parent:

Name of child:

Date:

Signed:

If you have any questions, please do not hesitate to ask at any time.

Researcher's Name : Yunus Emre Demir

Institute : Plymouth University Institute of Education

E-mail : yunus.demir@plymouth.ac.uk

If you have any complaints about this research, please contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

Appendix 12: Head Teacher Consent Form

HEAD TEACHER CONSENT FORM

Project title: *An Investigation of Experiences of High Potential and Twice Exceptional Students in English Secondary Schools*

I confirm that I have read the Information Sheet offered to me about the project and I have been informed of the aims of this study.

I understand that students and teachers in my school will voluntarily agree to participate in the study. Even if they accept to participate now, they can withdraw within 2 weeks after the interview or refuse to answer any question during the interview without a justification.

I understand that I have always an opportunity to ask any question I wonder about this study.

By approving this research, I will be giving consent for:

- Selected participants in the school to answer the questions included in a questionnaire form prepared by the researcher.
- Interviews with participant teachers and students (face to face or online).
- The recording of interview responses through written notes (on paper or via digital media, e.g. e-mail, online document).

I understand that all information participants in my school provide for this study will be treated confidentially.

Name of Head Teacher: _____

Name of school: _____

Signed: _____

Date: _____

If you have any questions, please do not hesitate to ask at any time.

Researcher's Name : Yunus Emre Demir

Institute : Plymouth University Institute of Education

E-mail : yunus.demir@plymouth.ac.uk

If you have any complaints about this research, please contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

Appendix 13: Student Consent Form

STUDENT CONSENT FORM

Project title: *An Investigation of Experiences of High Potential and Twice Exceptional Students in English Secondary Schools*

I confirm that I have read the Information Sheet offered to me about the project.

I voluntarily agree to take part in this research study.

I understand that even if I agree to take part now, I can withdraw within 2 weeks of my interview or refuse to answer any question during the interview without giving a reason.

I understand that I have can ask any question about this study.

By agreeing to take part, I will be giving consent for:

- An interview with me (face to face or online) to learn more about my experiences in school.
- Recording of my answers (on paper or via digital media, e.g. e-mail, online document) to the questions included in a questionnaire prepared by the researcher.

I understand that all information I provide for this study will be treated confidentially.

Name of Student: _____

Name of school: _____

Signed: _____

Date: _____

If you have any questions, please do not hesitate to ask at any time.

Researcher's Name : Yunus Emre Demir

Institute : Plymouth University Institute of Education

E-mail : yunus.demir@plymouth.ac.uk

If you have any complaints about this research, please contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

Appendix 14: Teacher Consent Form

TEACHER CONSENT FORM

Project title: *An Investigation of Experiences of High Potential and Twice Exceptional Students in English Secondary Schools*

I confirm that I have read the Information Sheet offered to me about the project.

I voluntarily agree to take part in this research study.

I understand that even if I agree to take part now, I can withdraw within 2 weeks of my interview or refuse to answer any question during the interview without giving a reason.

I understand that I have can ask any question about this study.

By agreeing to take part, I will be giving consent for:

- An interview with me (face to face or online) to learn more about my experiences in school.
- Recording of my answers (on paper or via digital media, e.g. e-mail, online document) to the questions included in a questionnaire prepared by the researcher.

I understand that all information I provide for this study will be treated confidentially.

Name of Student: _____

Name of school: _____

Signed: _____

Date: _____

If you have any questions, please do not hesitate to ask at any time.

Researcher's Name : Yunus Emre Demir

Institute : Plymouth University Institute of Education

E-mail : yunus.demir@plymouth.ac.uk

If you have any complaints about this research, please contact the Research Administrator of the Arts and Humanities Faculty Research Ethics and Integrity Committee, Claire Butcher claire.butcher@plymouth.ac.uk.

Appendix 15: Student Questionnaire Form



SAMPLE QUESTIONNAIRE FOR STUDENTS

Dear Student,

Thank you for filling in this questionnaire.

Please note that your answers are confidential. Your answers are of great importance to this research so please try to respond to all the questions.

Yunus Emre Demir

PhD Student, University of Plymouth

Gender : () Male () Female () Prefer not to say **Age:**

Class Level:

INTERVIEW QUESTIONS

1.	What kind of experiences do you have at school and in your social life as a person who is both able but who also needs some extra support sometimes? (Any advantages/disadvantages or challenges/difficulties you face)

2.	What are the strengths and weaknesses that you feel you have?
3.	In what areas do you need support most? Does the school offer you support like counseling and / or guidance or extra support? If yes, do you think this is enough for your needs? (Please explain other help or services outside school that you benefit from)
4.	Do you think that challenges you face due to your area of need get in the way of succeeding in the areas where you are very able?
5.	How are your social relationships with family members, teachers and peers in your class/school? How do you get on with those people?

Appendix 16: Teacher Questionnaire Form



SAMPLE QUESTIONNAIRE FOR TEACHERS

Dear Teacher,

Data obtained from this questionnaire will be used in my PhD dissertation. You are invited to read and answer the questions below carefully. Please note that all of the information collected will be treated as strictly confidential. Your answers are of great importance to this research so please try to respond to all items.

Thank you for your thoughtful answers and contributions.

Yunus Emre Demir

PhD Student, University of Plymouth

Gender : () Male () Female **Subject:** **Years of experience in teaching:**

INTERVIEW QUESTIONS

1.	What do you provide for your twice-exceptional students (2e) who are able but also need additional support to cope with the classroom / school environment? To what extent do you think your intervention efforts respond to their needs?

2.	What are the difficulties and advantages you most often face in educating your 2e student/s compared to their peers?
3.	What difficulties do your 2e students often have academically and socially? (i.e. around motivation, organising skills, performance, building peer relationships, despite their abilities). Please explain how these students overcome these issues (e.g. receiving additional support from guidance services provided by the school).
4.	In what areas do their difficulties mask their existing talents or in what areas do they show their abilities the most?

5.	What strengths and weaknesses do 2E students have in an academic context?
6.	What, if any, emotional and behavioural issues do your 2E student/s have? What is their social relationship with you in class like? (As far as you observe)