

**Pupils who are Deaf and Hard of Hearing: Experiences of
Inclusion within a Mainstream Secondary School in Saudi
Arabia**

Submitted by

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Abstract

This interpretive study explores the experiences of female students who are Deaf and Hard of Hearing (DHH) in one secondary school in Saudi Arabia and reports their voices, alongside that of their teachers, in an attempt to better understand how hearing impairment impacts on their perceptions of: their education setting; school experiences (feelings and attitudes toward school); relationships (teachers, peers, etc.); participation in learning, and school activities; support; and exams in the Saudi context. The study follows a multiple case study methodology where the cases were 12 female secondary students in the same school diagnosed as having hearing impairment. The study used multiple data sources: semi-structured interviews with students and teachers, unstructured classroom observations and focus groups of students.

Ten salient themes emerged from the thematic data analysis: participant personality; feelings in the secondary mainstream school; attitude to the deaf institute and sign language; social experiences and relationships with peers; relationships with teachers and parents; academic participation in classroom and school activities; difficulties' and barriers in the mainstream schools; speech; exams; and support. Analysis showed that the experiences of participants were varied, and both positive and negative, depending on the relationship between the individual student and different factors, such as, their prior education, personal character, speech skills, teacher support, and hearing students' acceptance. This study found that the students with DHH sense of belonging in the inclusive environment was associated with students' academic experiences and involvement in school and classroom activities (academic inclusion) and social experiences (social inclusion) and their attitudes toward inclusion. For example, for students who held positive attitudes towards inclusion this seemed to be the result of

experiencing positive academic inclusion (e.g. more engaged and participative in the classroom activities) and social inclusion (e.g. being accepted, included, and encouraged by others, such as, teacher and peers) which all lead to a feeling of belonging in the school.

Table of Contents

Abstract	3
Chapter One: Introduction	9
1.1 Introduction	9
1.2 Background and context of the problem	9
1.3 Rationale and significance of the study	11
1.4 My individual experiences and motivation.....	15
1.5 Aims of the study.....	16
1.6 Research questions	17
1.7 Methodological approach	17
1.8 Thesis structure	18
Chapter Two: The context of the study	21
2.1 Introduction	21
2.2 The context of Saudi Arabia.....	21
2.3 The development of specialist and deaf education in Saudi Arabia	22
2.4 Policies of special education and inclusion in Saudi Arabia	26
2.5 Current provisions for students with DHH in Saudi Arabia.....	29
2.6 Teachers of students with DHH in Saudi Arabia	33
2.7 The school context.....	35
2.8 Conclusion	40
Chapter Three: Literature Review	42
3.1 Introduction	42
3.2 Terminology and understanding of deafness and hardness of hearing	43
3.3 Implications of DHH for education of students with DHH.....	50
3.4 Inclusive education: theoretical overview	50
3.5 Some studies on the experiences and attitudes toward inclusion.....	61
3.6 Academic and social inclusion for students with DHH	80
3.7 Factors that contribute to inclusive experiences for students with DHH	96
3.8 Conclusion	106
Chapter Four: Methodology	108
4.1 Introduction	108
4.2 Aims and Research Questions.....	108
4.3 Philosophical assumptions.....	109
4.4 Methodological Approach	112
4.5 Data Collection Methods.....	116
4.6 Participants	126

4.7 Research Design and Procedures.....	131
4.8 Data Analysis.....	134
4.9 Trustworthiness.....	140
4.10 Ethical Considerations.....	146
4.11 Conclusion.....	153
Chapter Five: Findings.....	154
5.1 Introduction.....	154
5.2 Overall participant demographic information.....	155
5.3 Part one: the students cases.....	153
CASE 1 (Abeer).....	157
CASE 2 (Fateen).....	163
CASE 3 (Rawia).....	168
CASE 4 (Sara).....	172
CASE 5 (Arwa):.....	177
CASE 6 (Rem).....	181
CASE 7 (Maram):.....	184
CASE 8 (Hatan):.....	188
CASE 9 (Lama).....	192
CASE 10 (Roaa):.....	196
CASE 11 (Fager):.....	200
CASE 12 (Munera):.....	204
5.4 Part two: Cross case findings.....	208
Conclusion.....	221
Chapter Six: Discussion.....	223
6.1 Introduction.....	223
6.2 Attitudes towards inclusion.....	224
6.3 Academic inclusion.....	229
6.4 Some factors that influence academic inclusion.....	253
6.5 Social inclusion.....	261
6.6 Some factors that influence social inclusion.....	271
6.7 A sense of belonging.....	279
6.8 Summary.....	282
Chapter Seven: Conclusion.....	283
7.1 Summary and main findings.....	283
7.2 Contribution to knowledge.....	285
7.3 Implications of the study.....	287
7.4 Limitations and the strengths of the study.....	297
7.5 Recommendations for future research.....	300

7.6 Conclusion	301
References.....	303
Appendices	337

List of appendices

Appendix 1: First interview questions for students	338
Appendix 2: Teachers interview questions	339
Appendix 3: Observation schedule	340
Appendix 4: Information sheet and consent form for students	341
Appendix 5: Information sheet and consent form for students	343
Appendix 6: Example of the initial analysis for the data (observation notes)	345
Appendix 7: MAXQDA software	346
Appendix 8: The ethical approval from the University of Exeter	347
Appendix 9: The permission from the Ministry of Education in Saudi Arabia	353

List of tables

Table 1: Number of weekly lessons per subject and per year group in Saudi secondary schools	36
Table 2: Mark scale system in the secondary school.	40
Table 3: Data collection methods	126
Table 4: Overall demographic information for the multiple cases	130
Table 5: Overall demographic information for the teachers	130
Table 6: The development of themes	140
Table 7: Overall participant demographic information	156
Table 8: The prior educational setting for the cases	209

List of figures

Figure 1: Research methods and procedures of data collection for each case	132
Figure 2: The association between themes	224
Figure 3: The main themes to emerge in the field ‘academic inclusion’	230
Figure 4: Classroom participation	232
Figure 5: Difficulties and barriers DHH students face in mainstream schools	235
Figure 6: Support DHH students receive in mainstream schools	242
Figure 7: Social inclusion of DHH students at Al Kauthar mainstream secondary school	262

Chapter One: Introduction

1.1 Introduction

This introductory chapter presents an overview of the study, which explores the complexity of the inclusion of female students who are deaf and hard of hearing (DHH) in a mainstream secondary school in Saudi Arabia. This chapter clarifies the background and context of the problem, and then touches on the rationale and significance of the study. Then, I presents my experiences and personal reasons for selecting this particular topic for doctoral research, after which I explain the overarching aim of the present study and its research questions. The final section of the chapter concludes by providing an overview of the thesis.

1.2 Background and context of the problem

In previous years, students with special educational needs (SEN) in Saudi Arabia and certain other countries were placed together with similar students in separate schools or classrooms from their non-SEN peers, or did not have any education at all. This situation came about due to the prevalent belief at the time that students with special needs required specially trained teachers and other staff, and the availability of SEN-specific facilities (Cline & Frederickson, 2009). However, this perspective has shifted over time, and contemporary orthodoxy favours a more inclusive approach that involves teaching students with SEN in mainstream schools (Osgood, 2008). In response to the increasing pressure that has been applied by human rights advocates, concepts such as 'normalisation,' 'integration,' 'deinstitutionalisation,' and the 'least restrictive environment' have emerged in the context of these educational

changes (Osgood, 2005). In general terms, this has involved a step-by-step movement from exclusion to inclusive education (Ainscow, Dyson & Weiner, 2013), which has been gaining importance and attention in many countries in recent years (Ainscow, 1999; UNESCO, 2009).

Against this background, Saudi Arabia has been undergoing a dramatic period of development, and has sought to incorporate these notions in its education system. There has been a great deal of interest in the kingdom regarding the inclusion of students with special educational needs; Al-khashrmi (2000) has argued that in Saudi Arabia, 'All students with special education need to have the right to be learning at general schools with their peers... learning for those students who are gifted and talented and those who have disability forms an integral part of Saudi policy in various types of inclusive education.... there is recognition that students with special needs constitute at least 20% of the school population. The general school is the natural place for learning students with special education needs' (p.152).

According to Tornillo (1994), policies of inclusion often leave teachers without resources, training, and other necessary support facilities as they seek to teach students with SEN in general classrooms; this being so, these students do not get the appropriate, specialised attention and care that they deserve, while the education of regular students is also disrupted. In light of this, restrictiveness does not only refer to a place or physical barrier; it can also be an attitude or social context, and the setting in which a student learns is not a more important factor than meeting students' needs (Hallahan, Kauffman & Pullen, 2009). Nevertheless, it has been argued that segregation restricts students with SEN access to the significant educational opportunities that are available to them in general schools, alongside their non-disabled peers (Cline

& Frederickson, 2009; Taylor, 1988; Linton, 1998; Russell, 1998). This being so, it is argued that schools should remove all barriers – including environmental and social factors – in order to effectively apply the philosophy of inclusion for students with SEN (Ainscow, Dyson, Goldrick, & West, 2011). Furthermore, it is suggested that inclusion requires considerable changes in attitudes and management within schools (Bailey & Plessis, 1997). According to Milsom (2006), improving attitudes could result in more positive experiences for students with SEN. It is also important for academic researchers to investigate the benefits of the inclusion of students with SEN, and to remain aware of the academic and social life that becomes available to such students when they are included in mainstream schools. To address these issues, the current study explores the complexity of the inclusion of students who are deaf and hard of hearing (DHH) in a female mainstream school in Saudi Arabia, with a particular focus on their experiences.

1.3 Rationale and significance of the study

The current study seeks to understand students with DHH in the inclusive setting in Saudi Arabia in terms of philosophy, practice, requirements, and barriers. It does not aim to solve any academic and social difficulties and barriers of students with DHH, but rather explore inclusion for the students in question.

According to Al-Mousa (2010), significant changes in the way students with SEN are taught in Saudi Arabia have taken place since 1948 when the first successful trials of mainstreaming took place in the city of Hufuf, in the Eastern Region of the Kingdom. Alshahrani (2014) has written that many Saudi educators have problematised the process of transferring students with SEN from specialist to mainstream schools, and there are some concerns that it can

be difficult to implement a policy of inclusion because Saudi teachers are considered not to be sufficiently well trained and supported to teach both students with SEN and students non-SEN. It is clear that teachers in inclusive classrooms should be willing to accept responsibility for the creation of inclusive schools in which all students can learn in their classroom and feel they belong to it. There has also been a debate concerning the best possible learning setting for students with SEN. Many educators and parents believe that these students are best served by inclusion in the regular classroom alongside their normal peers, and that separate education constitutes inequality (Villa & Thousand, 1995); some have voiced their opposition to inclusion, asserting that it is not the best approach because those students maybe more likely to feel lonely (Tekinarslan and Kucuker, 2015). Saudi educators, professionals, and academics have begun to enter this debate in recent years, and consequently, I searched the literature for evidence of the potential negative or positive impacts of inclusion for students with DHH, and the factors that influence students with DHH attitudes towards inclusion.

Many studies have found that teachers play a central role in the education process, and it has been argued that any negative attitudes that teachers betray towards inclusion represent a significant barrier to the effective functioning of this system (Glazzard, 2011; DeSimone & Parmar, 2006; Orr, 2009). A number of quantitative studies have been conducted in Saudi Arabia on teachers' attitudes towards the inclusion of students with DHH, such as Al-Faiz (2006), Al-Ahmadi (2009), Al-Abduljabbar (1994), and Alenizi (2012); however, students with DHH own attitudes and experiences are not often addressed in the literature, even though students with DHH themselves play an important role in the inclusion process, while hearing students' attitudes may also affect the

learning experience (Salend, 1998). Antia, Stinson and Gaustad (2002) have argued that the aim of inclusion should be to support all students, both hearing and with DHH, in order to maximally boost their academic learning and social development.

The issue of inclusion continues to dominate much of the international policy agenda, and has excited considerable debate between researchers, professionals, parents, and other stakeholders. However, as Norwich and Kelly (2004) have stated, 'While inclusive educational policies continue to generate intense debate, there is comparatively little systematic research on its many facets. One important facet of the inclusion question is children's own perspectives on their special educational provision' (p. 43). Based on the background literature on inclusive education, it can be deduced that research has typically focused on examining the attitudes, beliefs, and values of teachers, administrators, and parents (Bearne, 2002; Cox, 2000; Weare, 2000), and that little research has been conducted on inclusive practices and policies from the students' perspective. Ainscow, Farrell, Tweddle and Malki (1999) state that listening to these 'hidden' students' voices may assist in the process of making mainstream schools and classrooms more inclusive. Dunleavy (2008) has written that this failure to involve students in conversations about their education may result in their disengagement from school experiences, while Gordon (2010) argues that if stakeholders listen to students' views, they can help to bring into being 'a powerful mechanism for connecting with students whose voices are often marginalized at school' (p.3). Students with DHH own perspectives and experiences can play a role in helping them to become more actively involved in and committed to their school community and therefore society at large, as they transition to adulthood (Booth & Ainscow, 2002;

Shogren et al., 2007; Wehmeyer & Palmer, 2003). It can be invaluable to take students' experiences into consideration when making educational decisions related to the assessment of learning outcomes, the implementation of curricula, school organisation, and practices that enable each student to be fully included and participate in an inclusive environment (Corbett, 2001; Sebba & Sachdev, 1997). Listening to students' opinions about their educational experiences is one way to assist schools as they seek to develop inclusive practices, and decide on the best way of supporting all students' needs (Gordon, 2010). Students with DHH attitudes towards and beliefs about the inclusive setting can enhance or limit classroom management (Bowen, 2009), showing the necessity of understanding students with DHH experiences in depth, and thereby yield an explanation for their perspectives.

This exploratory study examines the experiences of female secondary students enrolled in a mainstream school in order to better understand the academic and social experiences among students with DHH students in the inclusive setting. Secondary-level female students with DHH (aged from 16 to 21) were chosen as the study group for this research because they typically come from a variety of educational backgrounds; for instance, some start their education in specialist primary schools for children with DHH, while others attend mainstream schools. This approach provides this research an in depth understanding of their experiences, and will showcase whether there are any differences in their perceptions. Female students were chosen as the subject because the education system in Saudi Arabia is gender-segregated, making it very difficult for me as a researcher to conduct such research with male students. This investigation was also complemented by examining teachers' perspectives of the inclusion of students with DHH in the mainstream setting.

1.4 My individual experiences and motivation

I am primarily motivated to explore the educational and social experiences of students with DHH as a result of my professional experience. Firstly, I studied SEN education at King Saud University in Saudi Arabia, focusing specifically on the issue of hearing impairment. This specialisation has been my passion since I was a student in secondary school because I have a female cousin with DHH who communicated with others via sign language, and I was not able to communicate with her in this way, which encouraged me to specialise in this issue at King Saud University in Riyadh, the capital of Saudi Arabia. I graduated in 2006 after four years; in the first two of which I looked at general issues in the context of special education, while for the second two, I focused on hearing impairment. In addition, I spent one term teaching at a specialist school for students with DHH in Riyadh (deaf institute).

Secondly, I have worked as a teacher for individuals with hearing impairments in a specialist DHH school, and have also taught integrated students with DHH in a mainstream school. From 2007 to 2010, I worked as a teacher in a mainstream primary school in the same city where this study was conducted. Then, from 2010 to 2012, I became a teacher in a specialist DHH school – the only such school in this city (deaf institute). This school encompasses all teaching levels; six years at the primary level, three at the intermediate, and three at the secondary level. I taught students with DHH at all of these levels, and built up a good relationship with them; this led me to understand the situation from the teacher's perspective, and I had the pleasure of having many conversations with students in both settings. As a result, I questioned the differences between settings and the perspectives of the

students, and realised that I wanted to better understand the situation, based on the students' own experiences and opinions.

1.5 Aims of the study

The current study has been conducted to come to understand the complexity of inclusive education; its theory, practice, and barriers to implementation. More specifically, the study is chiefly concerned with the inclusion of students with DHH in mainstream schools in the Saudi context, with a particular focus on the students' own attitudes towards and experiences within this process. In this regard, the study employed interpretive approaches to fully explore this topic. The aims of the study can be outlined as follows:

- To gain an in-depth understanding of what female secondary students with DHH feel about their learning and social experience in an inclusive classroom.
- To explore the views and attitudes of female secondary students with DHH toward the inclusive setting in the context of a Saudi mainstream school.
- To gain an in-depth understanding of how female secondary students with DHH are supported in the context of a Saudi mainstream school.

The concluding significant aim of this study is to come to an in-depth understanding of how female students with DHH describe their experiences in Al Kauthar secondary mainstream school (a pseudonym) in Saudi Arabia in order to identify potential improvements that can be made. The insight gained from these responses can play a significant role in adjusting current policies, or even formulating or creating new policies that address the needs of students with DHH. This study has sought to capture the voices of students with DHH

and the teachers who work closely with them, and thereby generate insight into the educational experiences of the students with DHH.

1.6 Research questions

Based on the research aims outlined above, the main questions that guide the current study can be formulated as follows:

- What are the experiences of female students with DHH in one inclusive setting in Saudi Arabia?
- What are the perceptions and attitudes of female students with DHH toward their inclusive setting in Saudi Arabia?
- How do female students with DHH describe their academic and social inclusion in an inclusive setting in Saudi Arabia?
- How do teachers describe their experiences of students with DHH in their school?
- How do teachers support students with DHH in their mainstream school?

1.7 Methodological approach

This study has followed an interpretive methodological approach that focuses on understanding a phenomenon from the individual perspective, investigating the interactions between individuals, as well as their cultural and historical context (Creswell, 2014). This is because it was apparent to me that it was necessary to locate these complicated issues of inclusion, DHH, attitudes, and experiences within a broader interpretive view, so I consequently decided to employ a multiple case study approach that encompassed several methods and techniques in order to generate valuable data to strengthen the study (Yin, 2018) and enhance its trustworthiness (Miles, Huberman & Saldana, 2014). To answer the research questions, this study has made use of three data collection

methods that allowed me to gain an in-depth understanding of the complexity of the issue of inclusion: semi-structured interviews, unstructured observations, and focus groups (see Chapter Four). The participants in this study consisted of 12 female students with DHH, each of whom constituted a separate case, attending one secondary school in Saudi Arabia. In addition, five teachers (two mainstream and three special teachers) from the same school participated in this research.

1.8 Thesis structure

In accordance with the focus of this study, the thesis is organised into seven chapters, including the current one. This chapter presents the background of the problem, and the rationale and significance of the study. In addition, it also looks at the aims of the study, the central questions, and the methodological approach.

Chapter Two examines the contextual background of the Saudi educational system, and provides a brief profile of the Kingdom of Saudi Arabia. Emphasis will be placed on the development of SEN and DHH education in the country, followed by an introduction of the policies that have been implemented in this regard. This chapter will also offer further insight into the current provisions available for students with DHH, as well as teacher training in the kingdom. It ends by examining the Saudi educational system in general, and the context of the school in which the study was conducted in particular.

Chapter Three presents a critical review of the literature, with respect to five main areas: deafness and hardness of hearing; inclusion; previous studies concerning the inclusion of students with DHH; and the factors that contribute to inclusive experiences.

Chapter Four outlines the research methodology. It first presents the aims of the study and its research questions, followed by an overview of the interpretive approach and philosophical assumptions that were adopted in this research. The chapter then moves on to a discussion of the methodological approach, and highlights and justifies the methods of data collection that have been employed in this research, before explaining how these methods were employed in practice. After that, the chapter contains a section that presents the research design and data collection procedures, including the participants, as well as the school in which the study was conducted. The following section discusses the data analysis, and the software package used to organise the data. The eighth section addresses the trustworthiness of the study and its credibility in relation to its philosophical assumptions, and finally, the last section looks in detail at the ethical considerations of the study.

Chapter Five presents the findings of the study, and the interviews, observations and focus groups of 12 students with DHH and their teacher interviews. Ten salient themes emerged, and these are explained in this chapter. These themes are: the characteristics of the participants; feelings of belonging in the secondary mainstream school in question; attitudes to the special school for deaf (Deaf Institute) and sign language; social experiences and relationships with peers; relationships with teachers and parents; participation in classroom and school activities; difficulties in mainstream schools; speech; exams; and support. In the first part of the chapter, the findings gleaned from each student are presented, initially with demographic information, and then according to the relevant themes, as applicable for each case. In the second part of the chapter, a cross-case analysis has been conducted to draw together the key findings from all cases, under each of the themes.

Chapter Six consolidates the findings of the study via a discussion of the results, with reference to the published literature. Finally, Chapter Seven presents the overall contribution of this study, and the theoretical and practical implications of the findings. This is followed by an acknowledgement of the strengths and limitations of the study, as well as some suggestions for further research.

Chapter Two: The context of the study

2.1 Introduction

This chapter presents the context in which the study was carried out, and outlines a brief profile of the Kingdom of Saudi Arabia, and in particular, the development of specialist and DHH education. This is followed by an introduction to specialist education and inclusion policies in the kingdom, and the current provisions available for students with DHH, as well as teacher training. This chapter ends by describing the Saudi educational system in general, and the context of the school in which the study was conducted in particular.

2.2 The context of Saudi Arabia

The Kingdom of Saudi Arabia is a large, developing country, strategically located in the south-western region of Asia. It is approximately 2,150,000 square kilometres in size (865,000 square miles), and occupies about 80% of the Arabian Peninsula. Administratively, Saudi Arabia is divided into 13 regions including the capital city of Riyadh.

According to Worldometers (2019), the 2019 population of Saudi Arabia is estimated to be 33,910,770, with 26,763,925 (78.4 % of the population) being Saudi citizens. The country is home to 0.44% of the total global population.

Islam is the principal religion in the kingdom, and the local culture is defined in terms of this religion. Islam highlights the importance of each Muslim gaining an education, both females and males (Al-Salloum, 1996), and asserts that each individual has the right to an education, regardless of their purported

sect, cast, status, gender, or disability. The current Saudi education policy conforms to this rule; the government protects the civil rights of all persons with disabilities.

2.3 The development of specialist and deaf education in Saudi Arabia

When Saudi Arabia was founded in 1932, education was only offered in *Katatib* – urban mosques that taught the Holy Quran, writing, dictation, and arithmetic (Encyclopaedia of Education in Saudi Arabia, 2019). At that time, education typically lasted about six years, was limited to boys only, and could only be obtained in certain regions of the country. The authorities were able to take advantage of the growing wealth that came with the exploitation of the oil fields present in Saudi Arabia, which funded social welfare programmes, and many public and specialist schools were opened across the country (Al-Mousa, 1999). A total of 87 years have passed since then, and Saudi Arabia now offers a free education system for all citizens, from primary school to the college and university level.

Saudi students with special educational needs did not receive specialist services before 1958 (Alquraini, 2011); since public schools did not offer special educational services, such students could only receive an education from their parents (Al-Ajmi, 2006). Such services began to emerge in 1958, when schools called ‘scientific institutes’ started to offer programmes that catered to blind students (Sallom, 1995). In the fallout of protests launched by a number of blind students in that year, the Ministry of Education initiated evening classes for blind students in Riyadh (the first school for blind students was ‘Jubrah’) to teach them the Braille system of reading and writing (Althabet, 2002). In 1960, the Ministry of Education established The Institute of Light for the Education and Training of

the Blind in Riyadh, which represented a milestone in the organisation of specialist education in Saudi Arabia.

In 1962, specialist education began officially in the kingdom, when the Ministry of Education established a Department of Special Education to improve rehabilitation services and learning for deaf, blind, and partially sighted students, as well as those with mental disabilities (Afeafe, 2000). Al-Mousa (1999) has written that, in 1964, the Saudi government established three institutions for boys in Aneaza, Alhofouf, and Mecca in order to educate visually impaired or blind students and meet their individual needs; these activities were all done under the umbrella of the Al-Noor Institute. In the same year, the first Al-Noor Institute for blind girls was opened in Riyadh.

Aldabas (2015) stated that, in 1964, the Ministry of Education also established Al-Amal Institute (deaf institute) in Riyadh, which ran a school for boys with DHH, and another for girls. Al-Amal Institute focused on teaching sign language to students with DHH of various ages; it followed the general education curriculum, with adaptations such as using sign language to teach Arabic, Islam, and maths. Some teachers at the deaf institute have a bachelor degree in DHH, while other teachers have a bachelor degree in other subjects. They all teach their students using sign language (Aldabas, 2015). Al-Amal Institute for the Deaf was established later than the first schools for students with DHH students in the UK and the US, where such schools were first established in the 19th century (Padden & Humphries, 2005; Warnock, 1978). According to AbuShaira (2013), Al-Amal Institute is an example of the early segregation of students with DHH from their hearing peers in Saudi Arabia, given that such students spent their entire school day with their peers with DHH, without experiencing any contact with hearing students.

According to Aldabas (2015), from 1960 to 1971, the special education programmes available in Saudi Arabia expanded from restricted facilities for students with particular disabilities to the establishment of the Special Education Agency at the Ministry of Education. This expansion increased the number of specialist day schools for male and female students with hearing and visual impairment. The development was most noticeable in Riyadh, where students with SEN from across the country could study. Al-Wabli (1996) has written that, in 1971, the Ministry of Education opened the first specialist school for students with intellectual disabilities in Riyadh, the Intellectual Education Institute, which offered girls and boys with severe intellectual disabilities specialist education, training, and housing. The curriculum was different to that of general schools, and focused on developing the students' behavioural, social, and daily life skills. The institute also provided residential services for these students.

In 1972, the Administration of Special Education was established by the Department of Special Education to provide special educational services for blind, DHH, and students with intellectual disability. The top priority for the Department of Special Education was to administer programmes, monitor educational progress, and ensure schools' compliance. Al-Muslat (1984) has found that this development with regards to SEN education occurred relatively early compared to Egypt, Iraq, and other Gulf states, but late compared to countries such as Jordan and Kuwait.

In 1983, the Department of Special Education changed its name to the General Secretariat of Special Education (GSSE), and its stated purpose was to continue opening specialist institutes in the 13 Local Educational Authority districts in Saudi Arabia, and provide facilities and accommodation for students with SEN (Al-Mousa, 1999). In the following years, there has been a steady

development in the number of programmes, as well as the quality of special educational policies and practices.

The late 1990s can be seen as a turning point in the history of special education in Saudi Arabia; at this time, the Ministry of Education began to integrate students with SEN into general schools by opening certain classes in a number of schools that catered to these students (Alnahdi, 2014). This was initially called 'mainstreaming' or 'integration,' which in the Saudi context means 'educating children with special educational needs in regular education schools and providing them with special education services' (Ministry of Education, 2002, p.8). There are two types of mainstreaming: partial and full. The former consisted of self-contained classes in general schools, while the latter entailed educating students with disabilities in general classrooms, and included special support programmes, resource room programmes, itinerant teacher programmes, and teacher-consultant programmes (Al-mousa, 2010).

Since then, the number of schools that offer specialist classes for students with disabilities has increased rapidly. For example, the number of special education programmes for male students increased from 38 institutes serving 5,208 students in 1994-1995 to 2,047 programmes serving 46,514 students by 2004-2005 (Al-mousa, 2007); it can be seen here that the number of male students who received special educational services increased almost nine times over 11 years, while the number of programmes and institutes catering to male students with disabilities increased almost 53 times. Furthermore, the number of programmes and institutes for female students with disabilities increased from 18 serving 2,517 students in 1994-1995 to 530 serving 10,651 students by 2004-2005 (Al-mousa, 2007); the number of female students who receive SEN education increased almost four times, while the

number of programmes and institutes increased almost 29 times during this period. These programmes cater to five types of disability: hearing impairments, visual impairments, intellectual disabilities, autism, and multiple disabilities.

No explanation has been provided by the Ministry of Education for the large difference between the number of programmes and institutes that cater for female and male students. However, according to Alnahdi (2014), it could be because this ministry, like others in Saudi Arabia, first offers new programmes for males to test their effectiveness. Another possible reason is the difference between the number of male and female disabled students.

The (GSSE) is home to a department called the Educational Advisory Unit (EAU), which provides a number of important services to specialist and inclusive schools. These include: evaluating educational programmes and social services through field visits; preparing curriculum, suitable equipment, and educational materials by modifying the national curriculum to meet the needs of deaf students, to ensure that they receive the same education as their hearing peers in the general setting, but with access to additional visual illustrations; and improving teaching approaches and planning meetings to ensure teacher development and training (Al-Omari, 2009). However, one issue is that the approaches advocated at the policy level do not necessarily translate to the classroom.

2.4 Policies of special education and inclusion in Saudi Arabia

For the last 50 years, there has been a general tendency to isolate Saudi students with SEN. However, according to AL-Mousa (2007), some promising changes have taken place in recent years, such as the provision of speech therapy units and SEN resource rooms. Since the early 1990s, the Ministry of

Education has emphasised meeting the needs of students with SEN, and has established policies and principles that protect the rights of these students (Alquraini, 2014). These include: the improvement of the core curriculum for specialist SEN education; a legislative instruction that students may not be rejected from any educational setting due to their SEN status; and the establishment of new facilities to improve services. The main aim of these policies has been to ensure that students with SEN enjoy access to free and appropriate education and rehabilitation programmes.

In 2001, the Department of Special Education of the Ministry of Education established the Regulation of Special Education Programs and Institutes (RSEPI), following collaboration with bodies such as the Department of Special Education at King Saud University, which reviewed specialist education policies in the United States such as the Individuals with Disabilities Education Act (IDEA, 1997) to develop more appropriate special education policies for Saudi Arabia. RSEPI includes 11 guidelines that detail a number of education provisions to adequately serve students with SEN and their families (Ministry of Education, 2002). Most of these guidelines relate to special education policies in general, while two directly concern inclusion. This is the case because in Saudi Arabia, the separation of children with special educational needs remains the primary method of addressing the needs of students with disabilities. These guidelines focus on the services that should be provided to students with disabilities to meet their needs, transition services, the responsibilities of professionals (such as teachers, head teachers), and service providers, and individual education plans. They also include ten categories of disability: deaf and hard of hearing; visual impairment; intellectual disabilities; learning

difficulties; autism; multiple disabilities; physical and health impairment; communication disorders; emotional disorders; and behavioural disorders.

Alquraini (2014) has written in detail about this policy that represents the foundation of special education provisions in Saudi Arabia; it is made up of 28 subsections that detail the rights of students with SEN, with regard to receiving an appropriate education. This policy stipulates that students with SEN should be educated in general schools, and that individual education plan (IEP) teams must make appropriate decisions for these students, taking into account the continuum of alternative settings. In addition, in terms of these regulated policies, educators are responsible for sustaining and building inclusive settings.

To achieve the goals of education policies in Saudi Arabia and meet students with SEN educational needs, the authorities have established a pedagogical strategy (Ministry of Education, 2018) to provide the appropriate services for these students. Ten matters in particular are detailed:

- To motivate general schools to become inclusive settings;
- To take full advantage of special schools or special educational institutes;
- To prepare staff working in special institutes;
- To develop the curriculum, educational plans, and students' books in special institutes and programmes;
- To make use of the appropriate technology to support students with SEN;
- To develop the Department of Special Education;
- To study and improve previous educational policies for special education, and establish new policies for future programmes;

- To establish and activate new special educational sections within the Department of Education;
- To support scientific research on SEN;
- To cooperate with other special educational departments, both within and outside Saudi Arabia.

The Department of Special Education also directs service provision for students with SEN, which includes: social care for these students; medical care; financial support; special services from several public service departments; the diagnosis of special educational needs by specialised staff; the education of students with SEN by coordinating with relevant departments; and outlines the technological aids that are to be provided to schools (Ministry of Education, 2018). In Saudi Arabia, the authorities are required to clarify the education policies that relate to students with SEN to the educational community, including teachers and students, as well as Saudi society as a whole.

2.5 Current provisions for students with DHH in Saudi Arabia

This section describes the current situation of DHH education in Saudi Arabia, both in specialist schools (deaf institutes), the mainstream (full inclusion) setting, and self-contained (partial inclusion) classrooms. It also reviews statistics about the number of students with DHH in Saudi Arabia, and the literature concerning students with DHH school settings; it ends with a summary of the current status of the specialised training available for the teachers of students with DHH in the kingdom.

Hearing impairment is the fourth-highest cause of disability globally, and creates an annual expense of more than 750 billion dollars (World Health

Organization, 2018). These facts have advanced the worldwide understanding of the requirement to pay attention to this disability. The World Health Organization (2018) has estimated that more than 5% of the world's population has a hearing impairment (466 million people).

In Saudi Arabia, significant strides have been made in the field of DHH education, ever since the first school for the deaf (deaf institute) was founded in 1964. In 1999, the Hearing Impairment Department was established, with the aim of providing additional support for students with DHH in the kingdom. According to Al-Khashrami (2004), Saudi students with DHH are the third-largest category of disabled student, while Al-Sharif (2012) has found that 88,000 Saudis have been diagnosed as DHH, of which 14,374 are students of school age. However, it is worth noting that there are no precise, up-to-date statistics about the number of students with DHH enrolled in DHH programmes; currently, like other students with special educational needs, students with DHH in Saudi Arabia can be educated in a variety of special educational programmes.

Firstly, there are special bodies called Al-Amal Institutes or deaf institutes (The word 'amal' means 'hope' in Arabic). These are specialist schools for students with DHH that include academic teaching and support facilities. Typically, the students with DHH who study in this setting have been diagnosed with severe (>70 dB) to profound (>95 dB) hearing loss, and often possess additional disabilities. Deaf institutes offer a primary level (six years, year 1 to year 6), a level for intermediate students (three years, year 1 to year 3), and a third level for secondary students (three years, year 1 to year 3), and the schools offer the same general curriculum as that followed in general schools. The students are generally taught by specialist teachers who have completed a bachelor's certificate in hearing impairment studies, as well as trained teachers

who have experience working with students with DHH, and can communicate via sign language. These schools offer students free daily transport between the school and their homes. As indicated earlier, the first schools of this type opened in 1964, one a school for girls with 25 students, and the other for boys with 16 students (Deaf Education Department, 2012). Currently, there are 12 deaf institutes (day school) for male students with DHH, and 16 for their female counterparts (General Administration of Special Education, 2013; 2012). Most of these schools offer specialist facilities such as accessible classrooms, assistive computer technology, quality furniture, listening devices, food, medical care, clothing, and recreational activities, which are especially useful for students whose families live in other towns.

The second type of special educational programme is partial inclusion (self-contained classrooms in regular schools); here, students with DHH are educated in special classes or units in general schools, by means of specialist educational equipment and materials, as well as dedicated teachers (who possess appropriate qualifications). This programme also offers students with DHH free daily transport between the school and their homes. Currently, there are two types of specialist classes open to students with DHH in the regular setting. The first is for students whose degree of hearing loss of 70 dB or greater, while the second type is special units or classrooms for students with mild-to-severe hearing loss of 40-96 dB, as well as those who have speech difficulties.

The third option for students with DHH is full inclusion (inclusive schools, which are general schools that accept students with DHH; services can consist of full inclusion in the regular classroom, whereby students with DHH spend the entire school day with their hearing peers in a general classroom), which is the focus of this study. Students with DHH who are educated full time in a general

classroom are taught by general teachers, along with specialist teachers who provide additional educational support, whether that be socially, academically, and/or psychologically. Further lessons can take place in a resource room, if students need individual teaching, or speech therapy. In addition, specialist teachers in the inclusive setting provide support for general teachers, as well as students' parents, via educational workshops. Students with DHH in this setting need to meet certain requirements to enrol in the inclusive setting, including possessing hearing loss of between 35-69 decibels (mild-to-moderate hearing loss) in their best ear, with the use of a hearing aid; an IQ score of 75 or higher on the Wechsler test or equivalent; no further disabilities in addition to their hearing loss; and the completion of a team evaluation to determine their needs (Deaf Education Department, 2012). However, based on my experience as a teacher, this requirements to enrol in the inclusive setting is not always appropriate. For example, some students who educated in this setting with a hearing loss of more than 69 decibels can undergo cochlea surgery. In addition, some students with DHH may also have additional disabilities. Typically, students with DHH who are enrolled in these settings follow the same curriculum as their hearing peers.

Before starting primary school, diagnosed students with DHH complete a two-year foundation course that consists of early intervention and support services to prepare them for the general curriculum and general school environment. This course is provided at Al-Amal Institutes (deaf institute) by specialist teachers who can communicate via sign language. During this course, students with DHH learn the concepts and basic skills essential for later education levels.

Even if they complete the foundation, primary, intermediate, and secondary educational stages, many students with DHH do not have the opportunity to attend further education, except at some vocational training centres (Al-Ajmi, 2006). Recently, however, these students have been given more opportunities to enter Saudi universities (Alshamsan, 2017); previously, university administrators claimed that the teaching style in place at deaf institutes is deficient in nature, and does not offer advanced scientific courses that are necessary for students who wish to pursue tertiary education.

2.6 Teachers of students with DHH in Saudi Arabia

In any discussion of the academic issues faced by students with DHH, it should be noted that any difficulties or delays may occur as a result of teachers' lack of skill and support, rather than by any perceived impairments of the students with DHH themselves. This being so, it would seem useful to provide an overview of the education offered to future teachers of students with DHH in Saudi Arabia.

When DHH education was first offered in Saudi Arabia in 1964, there were only 11 teachers for DHH, most of whom were non-Saudi. In 1968, the government – in cooperation with UNESCO – initiated a programme to train and prepare 40 teachers (20 females and 20 males) to work with students with DHH (Al-Muslat, 1984). Since then, the situation has changed, and the establishment of the Department of Special Education at King Saud University in Riyadh marked the formal recognition of this issue. The majority of staff in this department have graduated from universities in the UK and US, and it has played a significant role in the development of teacher education in the field of special education in the kingdom. Currently, there are more than eleven special education departments in Saudi universities (Battal, 2016), which has led to a

rapid growth in the number of graduate teachers working with students with DHH. Specialist teachers for students with DHH are required to possess a bachelor's degree in special education needs, with a special focus on hearing impairment. Teachers in Saudi Arabia who work with students with DHH and other SEN undergo a period of specialised preparation, and enjoy an additional salary bonus of 30% (Al-Mousa, 1999) that is designed to help to raise the financial status of these teachers, and encourage future teachers to enter this field. Teachers for DHH are responsible for teaching students and classroom activities, reviewing the aims of curriculum skills, and assessing students' success in the context of their individual education plan. According to the Ministry of Education (2001), teachers of students with DHH must perform a number of actions:

- Diagnose students with DHH in the classroom in order to decide on the nature of the educational support to be provided to each student;
- Offer recommendations regarding possible interventions that could help students with DHH;
- Plan both short- and long-term actions for all students, and help to implement them in the form of individual education plans;
- Assess each student with DHH on a regular basis to identify the extent of their progress;
- Participate in research, studies, courses, conferences, and seminars in the area of DHH education;
- Help all students with DHH by creating interactive learning environments.

General teachers may be required to teach students with DHH in the mainstream school setting at the primary, intermediate, and secondary levels. These teachers are responsible for teaching all students in the mainstream classroom, including students with DHH; they enjoy an additional salary bonus of 20% if they teach students with DHH for at least 10 sessions per week, to encourage them to teach students with DHH.

These tasks and requirements for specialist and general teachers represent a significant form of support for students with DHH, both academically and socially. However, it is unclear to what extent they lead to improvements in practice.

2.7 The school context

In order to fully understand the background of this study and findings, it is important to explain the education management system in place in Saudi Arabia in general, and in schools in particular, focusing on the available facilities. This study was conducted at a mainstream girls' secondary school (which I have called Al Kauthar Secondary School). The education system in Saudi Arabia is primarily under the jurisdiction of the Ministry of Education, and education is strictly segregated by gender at all stages. It is composed of four stages: pre-primary school, primary school, intermediate or moderate school, and high or secondary school. The pre-primary stage (a two-year foundation course) is for children aged between three to five years of age, and is also known as kindergarten. The primary stage lasts for six years, and caters to children from the age of six to 12. When the students complete primary school, they move on to intermediate education, which lasts for three years, from the age of 13 to 15. The final stage of general education is secondary school, which also last three years, and is designed for students aged between 16 and 18. In secondary

school, there are two streams available for girls: literary and science studies. Differently, boys can opt to focus on applied sciences, natural sciences, religious education and Arabic, social sciences, and administrative studies. Students choose their stream by the end of the first year of secondary school, and as can be seen, boys have more choices open to them than girls in secondary school. Table 1 below shows the number of weekly lessons per subject and per year group for students in Saudi secondary schools.

Subjects	Literary section			Science section	
	Year 1	Year 2	Year 3	Year 2	Year 3
Islamic studies	5	10	14	5	4
Arabic studies	5	11	9	5	3
Social studies	5	5	5	1	1
English language	5	4	4	4	4
General science	5	0	0	10	10
Mathematics	5	0	0	5	8
Computer science	5	2	2	2	2
Total weekly sessions	35	32	34	32	32

Table 1: The number of weekly lessons per subject and per year in Saudi secondary schools

At all stages of the education system in Saudi Arabia, schools are divided into general and mainstream schools. The difference between these two systems is that general schools do not include students with hearing impairments, visual impairments, or intellectual disabilities, but do include students with learning disabilities. However, there are no special education teachers available in general schools and therefore no support available for

students with SEN. On the other hand, mainstream or inclusive schools include students with the above-mentioned disabilities, while they also offer teachers who specialise in teaching students with these disabilities, such as those who possess degrees in relevant fields. Furthermore, as mentioned earlier, mainstream schools can be divided into two types: full and partial inclusion. The former entails that students with SEN spend their entire school day with their non-disabled peers in the same classroom; however, special education teachers may withdraw students with SEN from the mainstream classroom to the resource room, if they are experiencing difficulties. This study was conducted in this type of school (full inclusion). The other type of mainstream setting is the partial inclusion school, which offers specific classes for students with SEN, and the ability to interact with non-disabled students in extra-curricular activities within the school. All mainstream schools in Saudi Arabia specialise in one main disability; for example, certain schools focus on students with hearing impairments, while others cater to students with different disabilities such as learning difficulties, visual impairments, or physical impairments.

This study was conducted in a female mainstream, fully inclusive secondary school (AL Kauthar) in a particular city in Saudi Arabia for three main reasons. Firstly, it is the city in which I was born, have lived, and have five years of teaching experiences. Secondly, this is the first city in Saudi Arabia that attempted to include students with disabilities in mainstream schools. The third reason is the large number of students with SEN in this city, although there is a lack of official statistics to support this fact. Some educators have reported that there is a large number of students with disabilities in this particular city based on the large population size and the local culture of endogamy, as a result of which many children inherit disabilities from their parents.

The school in which this study conducted teaches students in three secondary grades: Year 1, Year 2, and Year 3 (ages from 16 to 18). Year 1 is composed of four classes, all of which include literary and science subjects; two of these classes include students with a hearing impairment. Year 2 is composed of four classes (two literary and two science); the two literary classes have students with DHH. Finally, Year 3 is composed of four classes (two literary and two science); two of the literary classes have students with hearing impairments. Due to the lack of special education teachers who specialise in science subjects, all students with DHH at this school have chosen the literary stream, given the lack of the specialist support available in the science stream.

The AL Kauthar school building has three floors. On the ground floor, in addition to indoor and outdoor playgrounds, the head teacher's and assistant head teacher's offices can be found, as well as a science lab, food technology classroom, sewing and fashion design classroom, arts classroom, computer lab, cafeteria, the prayer room, and a resource room for students with DHH, which includes also the special education teacher's spaces. The first floor includes the mainstream teachers' staff room, Years 1 and 2 classrooms, and the office of another assistant head teacher. Finally, the second floor is home to a staff room for mainstream teachers, the Year 3 classrooms, library, and resource room.

There were 360 students in this school during the 2015/2016 academic year, including 23 with a hearing impairment. Each classroom caters for 30 to 40 students, including students with DHH. In this school, there are 40 mainstream teachers with bachelor's degrees in various disciplines, including six specialised teachers with bachelor's degrees in this area (hearing impairment). In addition, there is a head teacher, two assistant head teachers, and six administrative staff, making a total of 49 members of staff.

It is also important to explain the role of the special teachers in this school. They all possess a bachelor's degree, as a part of which they studied courses on teaching students with hearing impairments, given that this school caters to students with hearing impairment as its main disability. Each teacher is responsible for one or two year groups in the school, and is therefore responsible for six to eight students with DHH. Each teacher has her own timetable, and attends most of the sessions with her students, supporting them in the classroom by explaining certain difficult points, repeating the main teacher's instructions, and sometimes learning from the main teacher concerning how to teach students both in the classroom and individually, especially for subjects that require a specialist teacher in some subjects, such as science subjects. The special teachers also offer one-to-one sessions, if a student appears to need individualised support (an individual education plan), while they also give group sessions. The individual education plan in Saudi Arabia involves tools of planning, teaching, and reviewing that underpin the process of planning interventions for students with SEN. These require students to be withdrawn from their general lessons for about 15 to 20 minutes per day, and are planned together by the general and special teachers in order to not interrupt the general teacher's lesson and impede other students from learning.

The aim of assessments conducted in Saudi schools is to measure the outcomes of the educational curriculum. The present examination system was the first and remains the only tool of educational assessment used in Saudi schools (Al-Salloum, 1987), and students need to succeed in these exams in order to progress to the next grade. In general, the academic year in Saudi schools is divided into two terms, and the curriculum is therefore distributed across these terms. In each term, students take two mid-term exams and one

final exam. Students can be awarded additional marks for classroom participation, at teachers' discretion. Based on my previous experience as a teacher at an inclusive school in the kingdom, I feel in a position to state that a common feature of lessons is for teachers to ask questions, and for students to volunteer to answer by raising their hands, either as individuals or as part of a group. Other aspects of participation include volunteering to take part in classroom activities and responding to teachers' instructions. Exams are designed by subject teachers, and students' ability to move on to the next year group depends on the total score they obtain each term. Table 2 below explains the grading system in the AL Kauthar secondary school, which is identical to that of all secondary schools in Saudi Arabia. It is worth noting that if a student does not achieve the required score, he or she will not move on the next year group, and students who repeat one or more years are unlikely to be the same age as their classroom peers; this is the case for some of the participants in this study, and will be appear in chapter five.

Scales	Mark
Excellent	90.00-100.00
Very good	75.00- 89.99
Good	60.00- 74.99
Pass	50.00- 59.99
Fail	-49.99

Table 2: The mark scale system in Saudi secondary schools.

2.8 Conclusion

In this chapter, I have presented a general overview of the background educational context of Saudi Arabia, the country in which the study was carried out, while I have also reflected on the development of specialist education in

general and DHH education in particular. Furthermore, this chapter highlighted policies with regard to specialist education and inclusion in the Saudi educational system, the current provisions available for students with DHH, and teacher training and tasks. Finally, I described the context of the school in which the study was conducted.

Chapter Three: Literature Review

3.1 Introduction

In this chapter, a critical review of various literature will be presented with respect to five main areas: deafness and hardness of hearing; inclusion; previous studies concerning inclusion for deaf and hard-of-hearing students; academic and social inclusion for students with DHH; and factors that contribute to inclusive experiences. The identification of literature was undertaken using a variety of computerised databases, such as the online library at Education Resources Information Centre (ERIC) and other databases available via Google Scholar. For example, JSTOR, British Education Index, Education Research Complete, and International Bibliography of the Social Sciences.

Multiple electronic journals publish research and papers on deaf education, but three of these were found to be particularly beneficial and useful: The *Deafness and Education International Journal*, which publishes articles and studies written by teachers of the deaf, individuals and professional researchers. The second is the *Journal of Deaf Studies and Deaf Education* which is a scholarly Oxford journal that includes applied articles including the discussion of cultural and educational topics and relating to people who are deaf. The third is the *American Annals of Deaf*, which mainly focuses on deaf education. The search process also included articles from other related journals, such as *British Journal of Special Education*, the *Journal of Special Education*, *International Journal of Inclusive Education*, and *International Journal of Special Education*. Many terms were used in order to search studies on deaf education, such as, deaf, hearing impaired, deaf and hard of hearing, integration, and inclusion. In

addition, some studies were excluded from the search, for example, the studies before 1980.

As stated above, this chapter firstly presents a discussion of the definitions of deafness and hardness of hearing, types, degrees of hearing loss, and the terms used in this research. This will be followed by a discussion about the concept of inclusion and the debate about the inclusion of students with special educational needs in general and deaf and hard of hearing students specifically. This will also include a definition of inclusion in Saudi Arabia. Then, the chapter will present a review of empirical studies on the inclusion of students with deaf and hard of hearing, including international and Saudi studies on the experiences and attitudes of teachers toward inclusive settings. A discussion will follow on academic and social inclusion for deaf and hard of hearing students. Finally, this chapter will discuss the literature on the factors that seem to affect the experiences of deaf and hard of hearing students in the inclusive setting.

3.2 Terminology and understandings of deafness and hardness of hearing

There is often confusion over the terms 'Deaf', 'deaf', 'hard of hearing', 'deaf and hard of hearing', hearing impairment' as well as their definitions and appropriateness of use in different contexts, including those of different countries. The difference between the capital 'D' and lower-case 'd' in 'Deaf' and 'deaf' is sometimes used to reveal the level of hearing loss, but more usually, Ladd (2003, p.xvi) indicates that the lower-case d:

'refers to those for whom deafness is primarily an audiological experience. It is mainly used to describe those who lost some or all of their hearing in early or late life, and who do not usually wish to have

contact with signing Deaf communities, preferring to try and retain their membership of the majority society in which they were socialised’.

the capital D ‘Deaf’, according to Ladd (2003), indicates ‘those born Deaf or deafened in early (sometimes late) childhood, for whom the sign language, communities and culture of the Deaf collective represents their primary experience and allegiance’ (p. xvi).

The literature, however, shows a variety of definitions of ‘deafness’ as a general term, often referring to the level of hearing loss as previously noted. For example, Moores (1996) denotes deafness as a hearing loss of 70 dB or more, an impediment to understanding oral speech through the ear, with or without hearing aids. Deafness, according to Stewart and Kluwin (2001), is a term that is often used to define a person with serious hearing loss that obstructs their educational progress. On the other hand, the terms ‘hard of hearing’ or ‘deaf and hard of hearing’, according to Moores (1996), refer to people whose level of hearing loss is 35–69 dB, causing difficulty in understanding speech through the ear with or without hearing aids. Others define the terms ‘deaf and hard of hearing’ and ‘deafness’ as including all degrees of hearing loss from mild to profound deafness (Knight & Swanwick, 1999; Watson et al., 1999). While the term ‘hearing impairment’ is commonly used to describe a different range of hearing losses, including deafness, the regulations for the Individuals with Disabilities Education Act IDEA in the USA define deafness and hearing impairment separately. Hearing impairment is defined by IDEA as ‘an impairment in hearing, whether permanent or fluctuating, that adversely affects a child’s educational performance’ (National Information Centre for Children and Youth with Disabilities, 1996, p.3). However, according to the Technological Education Centre for Deaf and Hard-of-Hearing Students (2018), ‘hearing impaired’ is an

offensive term to many deaf and hard-of-hearing individuals. They consider the terms 'deaf and hard of hearing' to be more positive and prefer not to be labelled as impaired. To end with, the terms deaf and hard of hearing include those who are deaf, those with partial hearing, those who are hard of hearing, those who lip read, and those with or without speech. This includes people who are born deaf, people who become deaf because of illness or accident, and those who are hard of hearing. In Saudi Arabia, all students with any type or degree of hearing loss are referred to in the educational system as either deaf or hearing impaired (Ministry of Education, 2018). For this reason, I have chosen to use the term 'deaf and hard of hearing' or 'deafness and hardness of hearing' (DHH) in this thesis to refer to all degrees and causes of hearing loss. However, some authors use different terms in their studies, therefore, I will be using the terms that have been used in reviewing their studies.

The nature of a hearing loss can vary widely. For instance, hearing loss may affect one or both ears, and it can vary in severity from mild to moderate, severe, or profound. There are three most common types of hearing loss, as follows (Knight & Swanwick, 1999):

- **Conductive hearing loss:** caused by diseases or obstructions in the external or middle ear (the pathways for sound to reach the inner ear). This type, according to Knight and Swanwick (1999) can be cured with medication or surgery. A person with a conductive hearing loss is usually able to use a hearing aid.
- **Sensori-neural hearing loss:** occurs due to a damage with the auditory nerve or the inner ear. Such hearing loss is permanent, but can be treated with hearing aids or, in severe cases, cochlear implant.

- Mixed hearing loss: a category in which someone suffers from both sensori-neural and conductive hearing loss.

Levels of hearing loss are classified by the British Society of Audiology (2019):

- First level (mild): a loss of hearing of 21–40 decibel. According to the British Society of Audiology (2019), typically those with this level of hearing loss might find that they have difficulty following speech in noisy situations.
- Second level (moderate): a loss of hearing of 41–70 decibel. Those with this level of hearing loss will probably find that they have difficulty following speech in general (British Society of Audiology, 2019).
- Third level (severe): a loss of hearing of 71-95 decibel. According to the British Society of Audiology (2019), they will have severe difficulty following speech without a hearing aid.
- Fourth level (profound): a loss of hearing of 95 decibel. They may have need of hearing aids, cochlear implants, sign language and lip-reading (British Society of Audiology, 2019).

In addition, Schirmer (2001) refers to students as having moderate hearing loss if they can hear classroom discussion only at close proximity, if it is loud and clear. Students with severe hearing loss are not able to hear conversational speech unless it is loud (Schirmer, 2001). Students with profound hearing loss, according to Schirmer (2001), may hear high sounds but cannot hear a conversation without hearing aids, and their speech is not easy to understand (Schirmer, 2001). However, Kirk, Miyamoto, Ying, Perdew and Zuganelis (2000) have found that 1% of deaf students are totally unable to understand speech in

any circumstances. Therefore, it is suggested that an early diagnosis, support for the development of communication and language, support for parents, and access to radio hearing aids in the inclusive setting are all factors that can improve learning and communication for students with DHH, and enable even students with a significant level of hearing loss to attend inclusive schools. For example, Pimperton and Kennedy (2012) claim that an early diagnosis of deafness in children tends to have a beneficial effect on such children's language development, while, according to Francois, Boukhris and Noel-Petroff (2015), it is appropriate to provide support for children with DHH immediately following the first diagnosis of their condition. Studies have shown that children who receive a diagnosis of hearing loss before six months of age, and who consequently gain access to support services, enjoy significantly better language, social, and emotional development than their peers who are diagnosed after six months (Yoshinaga-Itano, 2003).

Studies have also shown that the quality of parent-child interactions (Niparko, Tobey, Thal, Eisenberg, Wang, Quittner & CDaCI Investigative Team, 2010) and parental involvement (Calderon, 2000; Moeller, 2000) have a major impact on language development in children who are deaf. Similarly, Calderon (2000) found that direct parental involvement in their children's education, as well as the quality of service delivery, exert a positive influence on children's academic and social development, and within this framework, teachers, and school administrators would more actively support and invite parental involvement, with the goal of increasing the extent of parental communication with children with DHH.

The hearing difficulties experienced in the classroom by students with DHH can sometimes be reduced by the use of radio aids, microphones that link up

through frequency modulation (FM) systems, sound field systems, and remote microphone hearing assistance technology (Wolfe et al., 2013). These technological devices are linked to students with DHH hearing devices to enhance sound quality and thereby improve their ability to learn, especially in the context of noisy classrooms. A study by Wolfe et al (2015) found that remote microphone hearing assistance technology has been found to be the most effective method of improving speech recognition in mainstream classrooms with challenging acoustics ((Wolfe et al., 2015).

The various strategies outlined here may improve the learning of students with DHH, and enable those students to participate in the inclusive school setting. However, in Saudi Arabia, as indicated in chapter two, students with severe and profound hearing loss are typically educated in the special school for deaf or self-contained classrooms (partial inclusion). Students with mild to moderate hearing loss study in the inclusive schools.

3.3 Implications of DHH for the education of students with DHH

Recent progress in the education of students with DHH has been made possible because of findings in the fields of educational research and cognitive science that have both presented new understandings of the cognitive abilities and language development of students with DHH, and suggested new ways to enhance their learning in both formal and informal educational settings (Marschark, Spencer, Adams & Sapere, 2011). Marschark and Hauser (2008) have argued that the non-arrival of sound to the auditory channel can have a deep impact on deaf children's development, as well as their learning and general educational needs. For example, students with DHH often experience not only a

loss of hearing, but also – as outlined by Schirmer (2001) – a loss in terms of language acquisition and spontaneous speech.

Keating and Mirus (2003) assert that without having mastered the complicated process of language development, children with DHH are unable to be active participants in a number of developmental activities that typically arise as language develops. Communication is often considered to represent the biggest barrier for children with DHH. According to Marschark (1997), it is not necessarily the hearing loss that has the biggest impact on the development of children with DHH, but rather the consequential lack of communication that obstructs their ability to access daily conversations with family members and interact with the outside world.

The ability to understand and develop language is thus extremely important to children with DHH as they seek to discover the environment and world around them, and interact with it. Students with DHH who learn sign language at an early stage may miss out on much of the common information that their peers with normal hearing gain through regular contact with their family and wider society. For instance, a student with a lower level of language skills will generally form a less complete picture of their environment than a student with higher level. For most children, linguistic reception is carried out through the auditory channel, which is not the case for children with DHH. Marschark, Lang and Albertini (2002) have written that despite the use of various modes of communication such as sign language, oral language, finger spelling, and written language, children with DHH nevertheless suffer from some barriers that prevent them from experiencing a complete linguistic input or intake.

The issue of language acquisition is important in this regard because it affects children at a crucial early age. According to Marschark et al. (2002), many

children with DHH do not have access to the requisite amount of communication throughout the most important stage for language acquisition, and this being so, most children with DHH enter school lacking fluency in language, whether signed or spoken. The issue of the extent of interactions between children with DHH and people around them such as parents and peers is the key to cognitive development (Garrett & Baquedano-Lopez, 2002)

Literacy development in students with DHH is a complex issue. According to Rottenberg (2001), there are many parallels to literacy development in hearing students, and some elements unique to students with DHH. Understanding these differences and commonalities allows teachers to plan more meaningful, appropriate literacy activities in their general classrooms. According to Briggie (2005), students with DHH, like their hearing peers, participate in literacy events and use written language in many typical ways (signed or spoken). For example, to interact socially with peers and adults while writing, to provide information about written text, to label written creations, to request assistance from peers and adults with writing tasks, and to evaluate literary works. Briggie (2005) and Rottenberg (2001), indicated that similar parallels can be drawn for early literacy experiences with reading. In this connection, students with DHH show an interest in print and drawings like their hearing peers (Rottenberg,2001).

3.4 Inclusive education: theoretical overview

This section will explain how researchers used the concepts of integration and inclusion, sometimes used interchangeably by authors and, at other times, given different meanings. Then, I will discuss the meaning of inclusion in Saudi Arabia, as well as explaining which definition will be used in this research. Finally,

there will be a comparison of different authors' views of inclusion and the debate surrounding the concept.

3.4.1 Integration and inclusion

Ainscow (1995) suggests that integration is about making a limited number of arrangements for individual students with special educational needs in schools. In contrast, inclusion can be considered to be quite different. Frederickson & Cline (2010), for example, state that inclusion suggests the presentation of a more radical fundamental set of changes by which schools restructure themselves in order to have the capacity to educate *all* children. Inclusion here has a broader meaning than integration. Integration, according to Frederickson and Cline (2010), involves the school in a procedure of adjustment whereby the responsibility is on the assimilating individual with SEN or with a different linguistic and cultural background to make changes so that they can 'fit in'. On the other hand, inclusion includes the school in a procedure of accommodation whereby the responsibility is on the school to change, adapt methods, materials, curricula and procedures so that it becomes more responsive. Integration seems to mean that students have to 'fit' the mainstream school to be successfully integrated. It also seems to me that integration means to involve those students with special educational needs who have first been placed in special schools and later integrated into general schools. Therefore, this does not seem to apply to students with special educational needs who have always been in general schools. Because of the narrow interpretation of the term integration, there has been increasing worldwide dissatisfaction with the term and 'inclusion' was advocated by researchers as a term to replace it.

However, Florian (1998) suggests that no single definition of inclusion has been universally accepted, even though many definitions of inclusion have been posited in various contexts. Topping and Maloney (2005) argue that inclusion is a broad term that refers to the acceptance of all people in society. In addition, Nutbrown and Clough (2006), explain that, 'Inclusion is an approach to education and childcare according to inclusive values rather than a concern with a particular group of children and young people' (p.12). Booth and Ainscow (1998) argue that inclusion is a process in which schools, local authorities, governments and communities attempt to eliminate barriers to participation processes and learning for all students and, according to Ainscow et al. (2006), provide 'resources to support learning and participation' (p.16). This support is understood as all activities provided to all students, including those considered to be co-curricular or extracurricular, which increase the ability of schools to respond to diversity (Booth & Ainscow, 2002). The Additional Support for Learning Act, enacted in Scotland in 2004 (Scottish Executive, 2004), also adopted this wider view of inclusion (that inclusion does not only relate to students with disabilities) and replaced the narrower concept of special educational needs with the notion of 'additional support for learning'. The viewpoint is that all students may need some form of additional support at some point in their school career for different reasons. However, some authors are wary of this approach and have stated concerns that this wider notion of inclusion may lead to the requirements and needs of students with SEN, and those of other specific groups, being overlooked (Farrell, 2004). According to Norwich (2002, cited in NCSE, 2010, p.4), 'it is seen as important that the accumulated expertise developed in the field of special education does not get lost or dispersed in this all-encompassing approach'. Farrell (2003), argue that students are defined by other factors besides their

special educational needs, such as family background, social disadvantage, gender or ethnic group, which are critical in providing and understanding the needs of the child. Overall, inclusion is often described as the process by which a school attempts to enhance a sense of academic and social participation (Cooper & Jacobs, 2011) to meet the personal, social and individual learning needs of all students (Ainscow, 2005), and to enhance the sense of belonging and achievement (Norwich, NALDIC Conference, 2011).

According to McMahon, Keys, Crouch, & Coker (2016), four aspects should be satisfied in order for a student to be considered as 'included': organizational inclusion, assessment and planning for inclusion, academic inclusion, and social inclusion. McMahon et al (2016) define organizational inclusion as 'school-wide practices that reflect the value of all students through school-wide organizational efforts, such as leadership support and staff and teacher commitment to inclusive practices, staff development, and organizational resources' (p. 658). Assessment and planning for inclusion according to McMahon et al (2016) involves assessing the student's strengths, needs, and goals. Social inclusion according to McMahon et al., (2016) refers to practices that support students with special educational needs in their socialization and encourage and provide them opportunities to connect with diverse peers without disabilities. The academic inclusion refers to practices that enable students with special educational needs to fully participate in academic activities in the inclusive classroom and school with all students (McMahon et al., 2016) and refers to a student's ability to take part in classroom discussion (Olsson, Dag and Kullberg, 2017). It is also defined as ensuring that all students receive the essential education they need to use their full individual potential (Olsson, Dag, & Kullberg, 2018). This means, they suggest, taking into account individual differences

between students and providing appropriate academic support services, rather than expecting students to adapt to the academic environment on their own. According to Ari and Deniz ,2008, cited in Kubat, 2018, p.30. individual differences between students include variables such as physical characteristics, gender, interest, intelligence, perception, ability, learning styles, and personality traits.

While the philosophical definition of inclusion has flourished around the world, the practice of inclusive education varies from one place to another (Ainscow, 2007) because 'notions of how inclusive education should look are not the same from one country to the next' (Schneider & Harkins, 2009, p.278). Therefore, there is a need to explain the meaning of inclusion in Saudi Arabia and the definition I have used in this research. This will be discussed in detail later in this chapter.

3.4.2 Inclusion for students with DHH

In many countries, inclusive education policies aim to increase accessibility to general school for students with special educational needs (Avramidis & Norwich, 2002). Therefore, mainstream classrooms become more heterogeneous (Stanovich & Jordan, 1998).

A survey by the Consortium for Research into Deaf Education (CRIDE, 2018) found that there are at least 43,467 deaf children living in England, but estimated that there are around 1,700 children in the five areas in England that did not give a reliable figure in their 2018 survey, suggesting that the actual number of deaf children living in England amounts to more than 45,000. CRIDE (2018) also found that 85% of permanently deaf children receive support from their local authority, but it does not automatically follow that the remaining 15%

receive no support at all; some may receive support from elsewhere, such as from a specialist DHH school, or via an annual resource provision from another source. Furthermore, a survey by the National Deaf Children's Society (NDCS, 2018) found that more than 77% of school-age deaf children in England attend general schools. Antia (2013) states that in the US, over 75% of students with DHH are mainstreamed in public school programmes, while in Saudi Arabia – the context of this research – there are no recent statistics on the percentage of students with DHH in either special or mainstream schooling. Nevertheless, the number of students with SEN in special schools has fallen, since the Saudi Ministry of Education adopted a policy of inclusive education (Al-Turki, 2005; Aryies, 2006). In addition, Al-Mousa (2008) has reported that the number of inclusive programmes for male and female students with SEN across Saudi Arabia has increased dramatically from 12 in 1996 to 3,171 in 2007. Therefore, it can be assumed that the number of students with DHH in special school in Saudi Arabia has fallen in recent years and the number of students with DHH in mainstream school has increased.

3.4.3 Debate about inclusion

Internationally, inclusive education is seen as vital to human rights and liberal democracies for equal opportunities, and is a priority policy objective (CSIE, 2018). Therefore, the practices and policies that assist in excluding some children from their right to be educated are challenged by inclusion. As indicated before, the philosophy of inclusion seeks to include a variety of pupils with special educational needs, including those with severe disabilities, with the opportunity to participate in curricular and non-curricular activities (Alquraini & Gut, 2012). However, it should not be assumed that there is full agreement on the notion of inclusion. Some educators believe that all students with special educational

needs should be included in general schools and that schools should make concerted efforts to include them. On the other hand, some educators believe that, by including all students with special educational needs, some may suffer significantly in general schools. For example, Cigman (2007) indicates that:

We need to ask 'included in what?' 'Excluded from what?' And indeed excluded by whom? No one (I am assuming) wants children to feel excluded ... Some are concerned about their feeling excluded from mainstream schools; others are concerned about their feeling excluded within mainstream schools and by other children. (p. xvii)

These different beliefs and understandings of inclusion have led to an important debate about inclusion, whether it is practicable and how it can be achieved. For example, Tornillo (1994), 25 years ago, was concerned about the pressure on teachers to deal with students' differences in the classroom. He argued that inclusion leaves general classroom teachers without the training, resources and other support essential to teach students with special educational needs in their classes. This leads consequently, he suggests, to disabled students not receiving the appropriate care and specialised attention. In addition, Tornillo argues that teachers may direct their attention to a few students with special needs in the classroom, reducing the amount of energy and time they have for the rest of the students. Indeed, the diversity of abilities, which is the focus of meeting all students' individual needs, Hertberg-Davis (2009) suggests, is too challenging for new teachers to meet effectively because of the lack of experiences of the technique to meet students' individual needs. According to Norwich (2005), this leads to the question of differences, or what has been termed 'dilemmas of difference'. Norwich (2008) proposes that 'the basic dilemma of difference is whether to recognise and respond or to not recognise and respond

to differences, as either way there are some negative implications or risks associated with stigma, devaluation, rejection or denial of relevant and quality opportunities' (p.1). Norwich (2005) argues that, when we define inclusion as Baily (1998, p.173) defines it, 'inclusion refers to being in ordinary school with other students, following the same curriculum at the same time, in the same classroom with the full acceptance of all ...', this mean that inclusion is relevant to all groups experiencing discrimination or disadvantage. Norwich indicates that talking about students with special educational needs does not only refer to those students with specific learning difficulties or moderate general and sensory and motor difficulty (Norwich, 2005). According to Norwich, special educational needs also includes those students with profound and severe learning difficulties and those with severe behavioural and emotional difficulties, students whom many teachers and educators are against educating in mainstream classes. Norwich (2005) argues that, 'these tensions reflect the complexity of what we mean when we talk about inclusion and inclusive practice –inclusion is not just about placement, it is also about welcoming and nurturing these pupils' (p.52).

McPhail and Freeman (2005) argue that separating students on the basis of the severity of their disability or other characteristics represents a form of 'colonisation' that blocks such students from gaining access to a broader learning environment. In addition, there is evidence that the culture and environment within mainstream school settings will have a direct impact on the acceptance of students with special educational needs (SEN) (Frederickson et al., 2007; McDougall et al., 2004; Riehl, 2000). However, Kalambouka et al. (2007) have suggested that students with SEN who are included in the mainstream setting make greater progress in their schoolwork than their peers in segregated settings. There is also a good deal of empirical evidence that students with SEN who are

included in mainstream schools tend to do no worse academically and socially than if they are placed outside the mainstream (Lunt & Norwich, 1999; Farrell, 2000; Lindsay, 2007). This may be due to the teaching strategies employed in mainstream schools such as cooperative learning through social grouping/teamwork. According to Stevens and Slavin (1995), students with SEN are more likely to achieve positive learning outcomes when explanations and models are provided by their peers. On the other hand, according to Wang (2009) educators find the segregation is better for students with SEN, as they are able to apply curriculum formulated specifically for them. Wang added also the students with SEN benefit from this system because of thought of attending classes with classmates having the same disabilities enhances their confidence or self-esteem and assures the security and sufficient support for special students need.

The decision to include students with all kinds of disability and severity can be dependent on the students themselves and whether they are willing to be included in mainstream school, and also whether teachers are there to support them. The debate about inclusion is clearly complex and confusing. Farrell and Ainscow (2002) argue that 'research has a major contribution to make' (p.8). They also add that, through good research, 'we gain deeper understanding of current arrangements, including the confusions and contradictions that exist' (p.8).

3.4.4 Debate about inclusion for students with DHH

Supporters of inclusion believe that students with DHH in mainstream schools have much better chances to interact socially with their hearing peers and teachers. According to Eriks-Brophy, Smith, Olds, Fitzpatrick, Duquette and Whittingham (2012), mainstream school for students with DHH emphasises three

benefits of inclusive education: realistic access to typical linguistic and behavioural models of normal hearing peers; social interaction and contact with peers with normal hearing; and social acceptance by hearing peers. Furthermore, Harrison (1988) argued that the environment of an inclusive setting has a richer curriculum, higher goals and more educational requirements than special schools, which provides students with DHH with greater opportunities and more motivation for learning. In addition, Hendar (2008) found that students with DHH in inclusive schools achieve higher average grades. Moreover, Hadjikakou (2002) indicates that the majority of students with DHH educated in an inclusive setting tend to achieve promising results with regard to their self-esteem, as well as their emotional and social adaptation, consequently obtaining the essential skills for social inclusion (Lynas, 1999; Powers, 2001). Further benefits of inclusion for students with DHH are that inclusion offers better opportunities to develop friendships than special deaf schools, where there are fewer students in the classrooms (Frank, 2003; Angelides & Aravi, 2007).

Nevertheless, others state that simply placing students with DHH in regular classrooms does not automatically facilitate meaningful social interaction, positive inclusion, peer acceptance, and/or improve their social communication skills. It is argued that, even if students with DHH in mainstream schools obtain academic benefits, they will not have the chances for social interaction that they would have had in special schools (Foster, 1989). Similarly, in a recent study by Coster et al. (2013), it was found that students with DHH can feel isolated and do not take part in daily school activities. The findings from two further studies indicate that the majority of students with DHH in mainstream schools have lower academic achievements than hearing students and report having fewer friends

than hearing students, despite feeling accepted (Byrnes & Sigafos, 2001; McCain & Antia, 2005).

Commentators who state that including students with DHH in the mainstream setting has a negative effect tend to base their views on interpretive research that finds that inclusion causes such students to feel excluded, rather than included. For example, Stewart and Kluwin (2001) do not argue against inclusion, but do agree that inclusion can negatively influence the self-esteem and identity of students with 'hearing disabilities,' and that it can also isolate them from their culture and society. Jarvis, Sinka and Iantaffi (2003) and Sinka, Iantaffi and Jarvis (2002) find that inclusion has implications for students with DHH' psychosocial development because it can have the unwanted effect of isolating from the wider school environment. Based on this view, Jarvis (2002) argues that social inclusion will not be achieved when deaf students attend mainstream schools because they are naturally set apart due to their difficulties in communicating, leading to very limited participation in classroom discussions. This might explain why some adults with DHH around the world have sought to promote separate educational settings for students with DHH (Adoyo, 2007; Powers, 2002). Jarvis (2002) asserts that in order for students with DHH to fully participate and engage in classroom activities, schools and teachers need to take action to include appropriate support, provide accessible instructions, and promote positive interactions and communication between DHH and hearing students.

As indicated earlier, in order to understand this complex and confusing debate on inclusion, further research is needed on the inclusion of students with DHH to gain a deeper understanding of the current situation. Therefore, this study focuses on the inclusion for students who are deaf and hard of hearing, because

the inclusion experiences of these students have not been studied in as much depth as those of students with other disabilities, especially in Saudi Arabia.

3.4.5 Inclusion in Saudi Arabia

As indicated above, the philosophy of inclusive education or inclusion has widened internationally and the practice of inclusive education and how inclusion is applied differs from one country to the next. To provide a context to this study, I will offer a brief description of inclusive education in Saudi Arabia. Readers of Arabic literature will recognise that just one Arabic word, *damg*, expresses the English terms 'integration', 'mainstreaming' and 'inclusion'. The meaning of *damg* has developed over time to 'reflect changes in western terminology and thinking' (Alanazi, 2012, p.18). Regardless of the previous discussion on the differences between integration and inclusion, Saudi Arabia uses these terms interchangeably. However, new Saudi studies have used the term 'inclusion' rather than 'integration'. Inclusion in Saudi Arabia means that students with special educational needs receive their education in general classrooms with some support from special education services such as resource rooms and that they also fully participate in the general education curriculum with some modifications and accommodations (Alquraini, 2011). According to Alanazi (2012), the inclusion policy in Saudi Arabia aims to focus on social acceptance for people with disabilities. In a report for the Arab Bureau of Education for the Gulf States, Al-Mousa (2010) reported that inclusion is 'the best educational tool for achieving social integration desired by people of the world' (p.49).

3.5 Studies on the experiences of and attitudes toward inclusion

Although this study focuses on the experiences of students with DHH in the inclusive setting, reviewing studies about teachers' attitudes is also important.

This is because research has shown that a significant factor in the extent to which students with DHH feel included in the mainstream school setting is the attitudes of teachers and school staff (Gibb et al. 2007), which have a strong effect on students' experiences at school (Baker, Grant & Morlock, 2008). According to Antonak and Larrivee (1995), teachers' beliefs and attitudes toward inclusion play a critical and primary role in the success of inclusion for students with special educational needs in mainstream schools, and are the most significant factor in effective inclusion.

In this section, a review of the literature on attitudes will be discussed. This will begin with international studies about teachers' attitudes and perceptions of inclusion. This will be followed by Saudi teachers', parents' and administrators' perspectives of inclusion. The focus will then move to students with DHH, first reviewing international studies on teachers' attitudes toward inclusion for students with DHH, followed by Saudi studies on teachers', parents', administrators' attitudes toward inclusion for DHH. Finally studies about students with DHH experiences and attitudes toward inclusion will be reviewed.

3.5.1 International studies about teachers' experiences and attitudes toward inclusion

According to Cook (2004) and Monsen, Ewing, & Kwoka (2014), when teachers are supportive of inclusion, they will be more likely to support the students in their practices. The importance of teachers' attitudes toward inclusion has been highlighted as enabling both academic and social inclusion for students with disabilities (Avramidis and Norwich, 2002; Gibb, Tunbridge, Chua and Frederickson, 2007). According to Monson and Frederickson (2004), students with special educational needs who are educated by teachers with highly positive

attitudes toward inclusion are found to have high levels of satisfaction and slightly lower levels of classroom conflict than students educated by teachers with less positive attitudes. Such students enjoy high levels of acceptance by peers and teachers in general classes with high cohesiveness.

More than 40 years ago, Dusek (1975) pointed out that teachers who have negative attitudes toward inclusion for students with special needs in general classrooms tend to have lower expectations for those students, which may affect the students' learning experiences. More recent research has indicated that negative attitudes towards inclusion by teachers can be associated with less inclusive classroom learning environments, which leads to students who report less satisfaction and cohesiveness within the classroom, and greater friction, difficulty and competitiveness between the students (Monsen, Ewing, & Kwoka, 2014). This is because, as Avramidis et al. (2000), indicated that 'Professionals' attitudes may act to facilitate or constrain the implementation of policies...the success of innovative and challenging programs must surely depend upon the cooperation and commitment of those most directly involved' (p. 278). In addition, Monsen et al., (2014) pointed out that teachers' attitudes affect whether or not a classroom learning environment is conducive to inclusive education. Therefore it is often suggested, for example by Downing (2008), that 'a fundamental change in attitude is the basic step that must occur before educating all students together successfully' (p.13). Inclusion policies in many countries, including Saudi Arabia, attempt to offer appropriate education for all students with or without disabilities in general schools. However, when general teachers have negative attitudes toward inclusion, they may not provide the necessary support that would create a beneficial learning environment for those students (Cassady, 2011).

Studies that have investigated teachers' attitudes toward inclusion have yielded a variety of perceptions, scepticism, and mixed feelings. For example, some studies show that teachers' attitudes depend on the type of disability students have (Dupoux, Wolman & Estrada, 2005; Hammond, Ingalls & Wolman, 2006), while others indicate that attitudes depend on the level of students' disability (Cook, 2004; Kozub & Lienert, 2003). Dupoux, Wolman and Estrada (2005), for instance, found significant differences in Haiti and the United States in the ways general teachers welcome and accept students with disabilities in general schools, and that most general teachers focus on students with learning disabilities, while showing relatively less attention to students with emotional and behavioural problems. Cook (2004) and Kozub and Lienert (2003) found that students with severe disabilities are more likely to be ignored by teachers.

Another factor that has been noted to affect teachers' attitudes towards the inclusion of SEN students in mainstream classrooms is the attitudes of their colleagues. For example, Dupoux, Hammond, Ingalls and Wolman (2006) compared teachers attitudes' toward the inclusion of students with disabilities in Haiti and the United States, and found that the most influential factor concerning teachers' attitudes was those of their colleagues; teachers who display a positive attitudes towards inclusion can influence the attitudes of their colleagues who hold less positive attitudes. This reveals the importance of the school climate and the need to nurture a positive environment towards inclusion.

Yet some studies indicated that teachers feel that students with SEN would be better provided for within specialist schools where they can receive better support than that provided in mainstream schools (Grieve, 2009). For instance, a quantitative study by Cornoldi, Terreni, Scruggs and Mastropieri (1998) examined the nature of Italian teachers' attitudes toward inclusion following 20 years of

inclusion policies and practice. The study surveyed a total of 523 teachers in northern and central Italy, and found that the respondents generally hold positive attitudes toward the benefits and concept of inclusion, but negative attitudes at the level of application. The study also indicated the presence of some conflicting beliefs; for example, many teachers who agreed that inclusion can reduce the stigma and isolation of SEN students believed that segregated classes may provide a more secure and protective environment. A recent study by Mónico, Mensah, Grünke, Garcia, Fernández and Rodríguez (2018) covered the perceptions, knowledge, and attitudes towards inclusion of 363 teachers in Ghana, Germany, and Spain, of whom 156 were men (43%) and 207 women (57%), with 150 from Ghana, 62 from Germany, and 151 from Spain. The study found that the teachers differed by country in terms of their attitudes towards inclusion, with those from Spain and Germany demonstrating a slightly more positive attitude. However, all agreed on the need for additional training as a key aspect in this regard. In addition, all the teachers showed adequate levels of knowledge about students' characteristics and instructional strategies, although those from Ghana demonstrated significantly more knowledge than the others about students' characteristics.

In the UK context, Clough and Lindsay (1991) argued that attitudes had shifted in favour of academic inclusion for students with SEN, partly, they suggested, as the result of teachers' experiences over the years. Other studies support this finding, and suggest that regular school teachers have increasingly come to develop positive attitudes towards inclusion (Avramidis et al., 2000; Avramidis, Bayliss & Burden, 2002; Beh-Pajooh, 1992; Morley et al., 2005). Avramidis et al. (2000) explored general teachers' attitudes towards the inclusion of students with special needs in a primary school in England, and found that

teachers who had active experiences of inclusion as a result of the implementation of inclusive programmes displayed more positive attitudes. The paper also revealed the importance of professional development for teachers in the formation of positive attitudes towards inclusion. The barriers identified by UK teachers include SEN pupils' emotional and behavioural problems and their effect on other students, teachers, and the broader school environment (Hasting & Oakfor, 2003).

3.5.2 Saudi studies on teachers' and administrators' perspectives of inclusion

In Saudi Arabia a number of studies have examined teachers' attitudes in relation to some variables, such as, gender, age, grade level, qualification, having family member with disabilities, type of disability, and teaching experiences (e.g. Dubis, 1987; Al-Ahmadi, 2009; Al-Abduljabar, 1994; Al-Faiz, 2006). Most of these studies showed that teachers in Saudi Arabia generally hold a positive attitudes toward inclusion, but their attitudes also vary based on the previous variables. For example, in regards to the gender of teachers, Al-Ahmadi (2009) examined male and female general education teachers and special education teachers working in mainstream schools in Saudi Arabia. The study found that female teachers had less positive attitudes than Saudi male teachers toward the inclusion of students with SEN in mainstream schools. However, Al-Abduljabar (1994) examined the attitudes of 221 teachers and administrators working in mainstream schools and found that female teachers and administrators had more positive attitudes than male teachers and administrators toward inclusive education.

Teachers with higher educational qualifications in Saudi Arabia were found to have more positive attitudes than other teacher with less qualification. Al-

Ahmadi (2009) found that level of qualification affected teachers' attitudes toward inclusive education. For example, teachers who held master's degrees were more likely to have positive attitudes toward the inclusive setting. Having a family member with SEN and teaching experiences is also explored by Al-Faiz (2006) when examined the attitudes of 240 teachers toward inclusive education for students with autism in primary schools in Saudi Arabia. The results indicated that having a family member or relative with a disability and teaching experience most affected the attitudes of teachers.

The type of disabilities have also been examined by some researchers in Saudi Arabia. For example, Alanazi (2012) explored teachers' and parents' perspectives of inclusion in primary schools for girls with dyslexia and learning disabilities in Saudi Arabia. In this interpretive study, data were collected from five primary schools in contrasting socio-economic environments. The participants were special and general teachers, head teachers and parents of students with or without special educational needs. Alanazi used interviews, observation and exercises with children for the data collection. The results showed that attitudes toward inclusion were generally positive, but less positive toward children with cognitive impairment. An additional study by Qaraqish (2008) found that teachers in Saudi Arabia showed negative attitudes toward the inclusion in the classroom of students with physical and behavioural problems, whereas they showed positive attitudes toward including students with learning difficulties.

It can be understood from the above mentioned studies that most teachers seem to hold positive attitudes regarding the inclusion of students with SEN in general which, as indicated earlier, plays an important role in how those teachers implement inclusive education. In the next section, teachers' attitudes and

experiences toward the inclusion of students with DHH in mainstream schools will be addressed.

3.5.3 International studies about teachers' experiences and attitudes toward inclusion for students with DHH

While a number of international studies have examined teachers' general attitudes towards children with SEN, there are some that have focused on attitudes concerning the inclusion of students with DHH in mainstream classrooms. For example, Eriks-Brophy and Whittingham (2013) distributed questionnaires to investigate Canadian teachers' experiences of teaching students with DHH in general classrooms and their attitudes towards inclusion, and found that the majority of teachers (80%) agreed that the general classroom is an appropriate educational setting for most students with DHH. The teachers in this study also displayed high confidence in their knowledge and ability to teach such students, and were satisfied with the support they obtained from their schools. Reed, Antia and Kreimeyer (2008) and Stinson and Liu (1999) state that such a belief on the part of teachers about their ability to teach students with DHH in the mainstream classroom, along with high expectations towards such students, are necessary components of successful inclusion. However, the teachers in both studies reported that their education programmes had not sufficiently prepared them to teach students with DHH, and suggested that their inclusion experiences had served to increase their workload and responsibilities.

Vermeulen, Denessen and Knoors (2012) interviewed and observed nine teachers of students with DHH in two general secondary schools in the Netherlands, and found that teachers vary with respect to their beliefs and emotions regarding inclusion. Some teachers were more positive than others

about the inclusion of students with DHH in the mainstream classroom, and many teachers revealed negative attitudes in response to students who engage in disruptive classroom behaviour. This result is consistent with studies conducted in various countries that show significantly higher rates of behavioural disorders among students with DHH, compared to hearing students (e.g. Dammeyer, 2010; Fellingner, Holzinger, Sattel & Laucht, 2008). Kauffman and Hallahan (2005) found that behavioural problems create challenges for teachers in inclusive classrooms, while previous studies have reported strong associations between behavioural problems and language; children diagnosed with language disorders show a higher incidence of behavioural problems, and equally, children diagnosed with behavioural problems show a higher incidence of language disorders (Beitchman, Wilson, Johnson, Atkinson, Young & Adalf, 2001; Brownlie, Beitchman, Escobar, Young, Atkinson & Johnson, 2004). Language plays a central role in childhood development. According to Luria (1961) and Vygotsky (1962), it is necessary not only for social exchanges, but also to internalise social norms and the development of behavioural control. Accordingly, the language deficits displayed by students with DHH may contribute to behavioural problems and difficulties with understanding and communicating requests and needs to normal-hearing students in the general classroom, and interfere with their emotional and behavioural regulation (Barker, et al. 2009).

Based on these studies, it can be concluded that there are differences in teachers' attitudes towards the inclusion of students with DHH in the general classroom. These differences could be taken to reflect teachers' experiences, as well as the variety of attitudes towards the concept of inclusion. The following section will discuss Saudi studies regarding teachers' attitudes towards inclusion for students with DHH in addition to those of parents and administrators.

3.5.4 Saudi teachers', parents', and administrators' attitudes toward inclusion for DHH

In his thesis, Alothman (2014) explored the knowledge, understanding, attitudes and experiences of school principals, teachers and parents of deaf students regarding the inclusive education of students with DHH in Riyadh, the capital city of Saudi Arabia. The study employed focus group interviews, individual interviews, observations and documentary data from 61 people. He found that the majority of teachers of students with DHH had the necessary knowledge and positive views towards inclusive education; however, limited support from principals inhibited them from improving the inclusive setting. The findings also revealed that parents appeared to have limited knowledge about inclusion and its effects on their children, and they were excluded from educational policy and generally did not play a role in supporting their children in inclusive education. In addition, some factors were considered to inhibit inclusive education for students with DHH, including insufficient resources and facilities, lack of training courses and lack of collaboration between school staff, and between school staff and the parents of students with DHH.

Another study by Al-shahrani (2014) explored teachers' and administrators' perspectives and attitudes toward the inclusion of students with DHH in Jeddah, Saudi Arabia. He used a mixed methodology approach to collect data in sequential quantitative and qualitative phases. The first method was a questionnaire presented to 120 teachers and administrators in direct contact with students with DHH. He examined their attitudes in terms of three components: beliefs, behaviour and emotions. In the qualitative phase, he attempted to understand educators' attitudes in depth by conducting semi-structured interviews with a purposeful sample of six administrators and five teachers with

diverse experience. The findings of the quantitative phase revealed positive attitudes toward hard-of-hearing inclusion but not with regard to deaf students. The Al-Amal Institute for the deaf was considered the best educational alternative setting for deaf students. The qualitative phase revealed that negative attitudes toward deaf inclusion were related to various factors, such as the lack of professional training and expertise in sign language, poor preparation for receiving students with DHH and inadequate resources in mainstream schools. Both Alothman's (2014) and Al-Shahrani's findings indicated the lack of resources in mainstream schools in Saudi Arabia, which may affect the teachers' attitudes.

Alquraini (2011) compared special and general teachers' attitudes toward inclusion for students with DHH. The participants were 300 Saudi teachers. The results indicated the unexpected finding that general teachers demonstrated more positive attitudes toward inclusion for DHH than special teachers. He attributed this finding to the types of experience these participants may have had. Alquraini's explanation is consistent with other studies that suggest that negative or positive experiences are more related to teachers' attitudes than their position as special or general teachers (Cornoldi, Terreni, Scruggs, & Mastropieri, 1998; Dupoux, Wolman, & Estrada, 2005). Alquraini's (2011) findings are also consistent with those of Hanafe (2009), who found that general teachers hold more positive attitudes toward teaching students with DHH in general classrooms in Saudi Arabia than special teachers.

However, a recent quantitative study by Aseery (2016) investigated 196 teachers' attitudes toward inclusion for students with DHH in Saudi Arabia. The study also analysed how these attitudes are influenced by certain variables, such as teaching position, years of teaching experience, teacher training on inclusion,

teachers' gender, having a family member with disabilities, and prior work with students with disabilities. The results indicated that teachers in Saudi Arabia showed slightly negative attitudes toward teaching students with DHH in regular classrooms. The findings indicate that there is a significant influence on teachers' attitudes from prior training and previous experiences of teaching. Other variables such as gender, years of teaching experience, area of education and having a family member with a disability did not seem to influence teachers' attitudes toward teaching students with DHH in the general classroom.

Some previous studies (e.g. Alothman, 2014; Al-Shahrani, 2014; Aseery, 2016) suggest that the more training teachers receive during their service or before their jobs, the more positive their perceptions and acceptance of inclusion. However, Alquraini's (2011) study did not find a relationship between teacher training and their attitudes toward inclusion. Thus, teacher training may or may not affect attitudes towards the inclusion of students with DHH in general classrooms.

The findings of the international and Saudi studies that investigated teachers' attitudes towards inclusion for students with DHH are consistent with the results of studies on other disabilities, which show that teachers hold different views and attitudes across different types of disability, and emphasise different factors that affect teachers' attitudes. The next sections will review a number of studies on students with DHH attitudes toward inclusion.

3.5.5 Students with DHH - experiences and attitudes toward inclusion and special schools for the deaf

According to Anglides and Aravi (2007), the question of which is the most beneficial type of school, mainstream or special, is often raised in research and in public debate among parents, educators and students with DHH themselves.

The experiences and attitudes of students with DHH toward both types of school is very important in order to understand the situation from their point of view. However, few studies have attempted to focus on this perspective. For example, a study by Doherty (2012) investigated the experiences and attitudes of students with DHH in special schools for the deaf in two countries (Northern Ireland and Sweden), where different educational philosophies and forms of instruction prevail. In Northern Ireland, the dominant system of education for DHH is similar to that in many other parts of the UK, which is based on oral and total communication. In contrast, in Sweden, the dominant system of education has accepted the views of linguists and studies that sign language is not only a valid grammatical language but is the first language of the deaf. A qualitative approach was used, whereby interviews were conducted with students with DHH who were in their final school year. The results of Doherty's study indicated that the Swedish respondents, who used sign language with teachers and students for instruction and social interaction throughout the school system, described their experiences as markedly more positive than those in Northern Ireland. The positive experiences stated by participants were related to sign language and deaf classroom assistants to facilitate comprehension between students and teachers. With regard to the preferred form of education, the results stated that most of the participants in both countries felt that deaf students should be educated separately from other hearing students because they have different needs.

Another study by Eriks-Brophy, Durieux-Smith, Olds, Fitzpatrick, Duquette and Whittingham (2006) examined students with DHH perceptions of integration and their recommendations for facilitating inclusion in Canada. In addition the study examined the views of students' parents and the itinerant teachers. Qualitative data were collected through ten focus group interviews examining

participants' experiences with and perceptions of the integration of students with DHH in academic, family and community environments. Sixteen young adults with hearing loss chose to participate in three of the focus groups. The findings of the research revealed that participants hold positive attitudes toward the benefits of inclusion and the potential of individuals with DHH to become fully contributing members of their families, communities and society as a whole. In addition, the most frequent and important facilitator to inclusion mentioned across all groups was the role of the itinerant teacher.

These two studies were carried out in three different settings and realised different results. The students with DHH educated in special schools in the three different countries stated that they felt that deaf students should be educated separately from hearing students because they have different needs. Doherty (2012) argues that this is not surprising because all of the respondents had been educated in special schools for the deaf. On the other hand, the study conducted with students with DHH in mainstream schools in Canada discovered positive attitudes toward the benefits of inclusion.

In another interesting study conducted in England, Jarvis, Sinka and Lantaffi (2003) examined the experiences of 83 students (39 male and 44 female students), studying at Key Stage 3 levels with 29 pupils in Year 7, 32 in Year 8 and 22 in Year 9. 61 of those students were deaf (with different levels of hearing from moderate to profound hearing loss) and 22 were hearing students. The participants who took part in the study came from 25 different schools in 16 different areas of England. The type of provision for deaf pupils in each school visited varied as 15 school had specialist units for deaf pupils, three had Special Educational Needs (SEN) bases, and seven schools had no dedicated provision for deaf pupils, while the pupils had access to the services of a peripatetic teacher

of the deaf, which also benefited from visits by peripatetic teachers of the deaf. Both one to one interviews and focus groups were carried out to gain information about personal experiences of inclusion. The results indicated that deaf students appreciated an inclusive environment that gives them access to both hearing and deaf students. In Jarvis et al.'s study, the participants were free to choose their performance mode of communication while interviewing one to one and in the focused group and 27 chose to sign, while 34 preferred to orally communicate. This does not just show that there is a relationship between the communication performance and the participant attitudes, but it may show that the identity is a significant issue for students with DHH in the inclusive setting.

Each of the above studies focused on students with DHH perspectives and attitudes in one setting, an inclusive setting or a special school for deaf, and indicated different results, perhaps indicating differences based on setting experience. To find out how different experience in special schools is from that in mainstream schools, many researchers (for example, Angelides & Aravi, 2007; Vetter, Lohle, Bengel, & Burger, 2010; Olsson, Dag, & Kullberg, 2017; Lambropoulou, 1997; Frank, 2003; Richardson, Marschark, Sarchet, & Sapere, 2010) have compared the two settings (special and mainstream schools) based on graduate students with DHH' experiences.

One such study (Angelides and Aravi, 2007) indicates that students with DHH have more positive academic experiences in mainstream schools and more positive social experiences in special schools. They conducted a study to shed light on the views and experiences of students with DHH in both special schools and mainstream schools in Cyprus in order to compare the two settings from the viewpoints of such students. The study explored the possible implications of these experiences and views to improve the educational system. Twenty people

with DHH, all 30 years or younger, participated and were interviewed for this study; they were members of the Association of the Deaf and had experience of different settings. With regard to academic level, the results indicated that students with DHH graduated from mainstream schools at higher academic levels and were provided with more opportunities for learning. For communication and interpersonal relations, the findings indicated that students with DHH who graduated from special schools had more opportunities to develop interpersonal relationships with teachers and schoolmates. In contrast, students with DHH who graduated from mainstream schools appeared to be isolated from their environment and experienced marginalisation and exclusion. Nevertheless, students with DHH consider mainstream schools as the setting in which they must be educated. The matching result was also found in a qualitative study by Frank (2003), which indicated that some students with DHH in general classrooms stated that they believed they reached higher academic achievements than in special schools for the deaf.

Another study conducted by Vetter, Lohle, Bengel and Burger (2010) in Germany focused not on the academic experience but instead on the psychosocial behaviour, semantic-lexical abilities and communicative skills of German elementary school students with DHH in different settings. Students in the mainstream classes ($n = 26$) were compared with students in separate educational settings ($n = 31$). The findings from the analysis of the questionnaire responses and intelligence subtests indicated that the only difference between the samples (both settings) concerned perceived well-being in school, and favoured students with DHH in mainstream classrooms. The mainstream students with DHH demonstrated higher levels of integration experience, associated with better communicative skills and fewer psychosocial

abnormalities. The findings showed that educational setting was not the only factor influencing students with DHH perceived well-being. Other relative factors, such as communicative skills and hearing status of parents, had a similar positive impact on inclusion experiences. The findings of Vetter et al. (2010) indicated that the social experiences of students with DHH were more positive in mainstream schools, not just the academic experiences, as the findings of Angelides and Aravi (2007) indicated.

However, a study by Lambropoulou (1997) in Greece and a recent study by Olsson, Dag and Kullberg (2018) in Sweden found that students with DHH in special schools are more satisfied than other students with DHH in mainstream schools. Lambropoulou (1997) recorded the experiences of students with DHH graduates from mainstream and special schools in Greece and made a first attempt to compare these two settings of education from the viewpoints of the individuals with DHH. The findings were generally negative regarding the experiences of students with DHH from mainstream schools. Lambropoulou points out that there was no differentiation within the curriculum to help with the inclusion of students with DHH in the learning process, there was very little support for students with DHH, and they had limited participation in the classroom. However, a positive finding also emerged from this research: the requirements and challenges of mainstream schools represented a motivation for many students with DHH and, thus, they were obliged to try different means and to discover new methods in order to adapt survive in a setting that was hearing dominated.

In addition, Olsson et al.'s (2018) quantitative study examined the question of which school setting (mainstream or special school) is more favourable for students with DHH in Sweden, in terms of their social and academic inclusion

and their well-being. A total of 7,865 adolescents (13–18 years of age) completed a questionnaire. The results showed that both boys and girls with DHH attending special schools for the deaf were more satisfied with their lives and felt more included both academically and socially than students in mainstream schools. Olsson et al. (2018) indicate that there are two possible explanations for these findings. They suggest that, one explanation, also supported by Frank (2003) and Angelides and Aravi (2007), may be that students with DHH think that special schools for the deaf are less challenging academically than mainstream schools, making it simpler to skip classes without permission. The second possible explanation could be that students with DHH in special schools meet like-minded friends to a greater extent than students in mainstream schools (Olsson et al. 2018; Angelides & Aravi, 2007).

Other comparison studies indicate that experiences in special and mainstream schools could be more positive in some aspects and less positive in others. For example, Richardson et al. (2010) conducted a study in the US to explore the experiences of postsecondary students with DHH in mainstream settings with their hearing peers versus students with DHH in special schools for the deaf. Questionnaires were utilised to obtain information on perceptions, participation and access to information in the classroom. The results showed that students with DHH in special school were more positive about instructor feedback, workload and the choices they had in their coursework. On the other hand, students with DHH in mainstream classes were more positive about their instructors' interest in them, such as flexibility in methods of assessment, and about their acquisition of analytic skills (rather than rote memorisation).

In Saudi Arabia, there have been attempts to carry out research to identify the impact of mainstream settings and special schools on students with

disabilities in general. For instance, Al-Mousa (2010) conducted a study entitled 'The experiences of the Kingdom of Saudi Arabia in mainstreaming students with special educational needs in public schools'. The aims of the study were to: identify the situation of inclusion in Saudi Arabia in general schools; note the effect of segregated settings and mainstream settings on academic results, self-concept and adaptive behaviour of students with disabilities; and to examine the impact of mainstreaming on both home and school environments. The study included all types of disabilities benefiting from the special education system in Saudi Arabia, for both genders. The research was guided by 29 hypotheses, which were tested based on information and data collected using the study instruments, including achievement tests, measurement scales, adaptive behaviour scales and self-concept scales. The focus here will be on the study findings for students with DHH that related to the hypothesis concerning self-concept. The results indicated a significant statistical difference for male students with DHH in all areas, with the total score on the scale in favour of students studying in special schools for the deaf compared to their peers in mainstream schools. In contrast, the results for female students with DHH showed statistically significant differences in the area of anxiety, as well as in the total score of the scale, in favour of female students in mainstream schools compared to their peers in the special schools. Both male and female students with DHH were in favour of students studying in special schools for the deaf compared to their peers studying in mainstream programmes (Al-Mousa, 2010).

Al-Zahrani (2005) conducted a comparative study of students with DHH social and emotional development in mainstream and special schools in Riyadh, the capital city of Saudi Arabia. The main unexpected finding was that there were no significant difference in academic behaviour, peer relations or self-

management based on educational setting or type of programme. On the other hand, there were significant gender differences in social adjustment and peer relations. The results showed that females students with DHH had higher scores in eight of the nine items on the peer relations scale. These results are similar to other research findings that showed female students have higher scores on social skills than do males (Cartledge, Cochran & Paul, 1996).

In summary, in the previous studies comparing the experiences of students with DHH in both settings (special and mainstream schools), contradictory findings were recorded. The different findings show that educational setting may not be the only factor influencing students with DHH experiences, and that other relative factors could have positive or negative impacts, such as communicative skills, the capacity of the school, acceptance by peers and teachers or students' characteristics. In addition, this could indicate that the experiences of students with DHH could be different from students who have experienced both types of school environment in their schooling years. Stinson and Kluwin (2011) indicate that the considerable differences in DHH attitudes and experiences at these types of school are not due to the school type itself (special or mainstream) but to individual differences among students with DHH in terms of language skills and intelligence, for example, or even additional handicaps and social background. In addition, the different results may be due to different methods of data collection.

3.6 Academic and social inclusion for students with DHH

Exploring and understanding disabled students' experiences of inclusion and exclusion within specific contexts over time may bring to light certain facts and questions that may otherwise remain unclear (Frank, 2003). One of the debates among educators is about including students with DHH in the general

classroom and whether this is beneficial both socially and academically for such students (Kluwin & Stinson, 1993). Research indicates that, while a school setting (inclusive or special school) might support academic inclusion, it might not be supportive of social inclusion. However, the existing research discussed previously in this chapter, including studies that have compared experiences in both settings (e.g. Angelides & Aravi, 2007; Vetter, Lohle, Bengel, & Burger, 2010; Olsson, Dag, & Kullberg, 2018; Lambropoulou, 1997; Frank, 2003; Richardson, Marschark, Sarchet, & Sapere, 2010), is somewhat contradictory. For example, students with DHH who have attended both mainstream and special schools state that the academic demands on them are higher in the inclusive setting and, as a result, they achieve better school results, which offers better opportunities for academic inclusion (Angelides & Aravi, 2007). At the same time, some studies indicate that students with DHH in mainstream schools feel isolated and lonely, and not socially included, perceiving themselves as rather more socially accepted in special schools (Angelides & Aravi, 2007).

It has been suggested that the aim of inclusion is to support both the academic and the social inclusion of students with DHH, and a number of studies have been carried out worldwide investigating this issue (Stinson and Antia 1999; Power and Hyde 2002).

3.6.1 Academic Inclusion

Academic inclusion is one of the main aspects of inclusion that students are required to achieve to be considered as included in mainstream schools. As indicated earlier, academic inclusion for students with DHH is considered to be about the students participating in the general classroom and in classroom discussions, as well as being provided with the appropriate academic support in order for them to achieve academic success in the inclusive setting. Stinson and

Antia (1999) claim that evaluation of students with DHH school performance should relate to two main components: academic achievement and classroom participation.

The next sections will discuss these two aspects, academic achievement for students with DHH, and classroom participation for students with DHH, both of which are outcomes of academic inclusion.

Academic achievement for students with DHH

According to the literature, it is common to assess the quality of inclusion by academic achievement. Research suggests that students with DHH often demonstrate low academic achievement and are frequently not successful in high school (McCaskill, 2005). According to Marschark et al. (2011), the general findings also show that students with DHH learn less than their hearing peers in inclusive classrooms whether instruction is delivered via spoken or sign language or a combination of the two. However, a number of studies indicate that, in mainstream schools, students with DHH tend to have higher levels of academic achievement than their peers with DHH in special schools (Allen & Osborn, 1984; Lynas, 1999; Moores & Kluwin, 1986; Powers, 2001; Karchmer & Mitchell, 2003). This may be because, as Harrison (1988) argues, in mainstream schools, the environment supports higher goals, a richer curriculum and greater educational requirements than in special schools for the deaf; as a result, this provides students with DHH with greater stimulus and more opportunities for learning. However, again, according to Karchmer and Mitchell (2003) and Kluwin (1993), it is difficult to attribute any differences in academic success to the programme setting itself.

A recent study by Ayantoye and Luckner (2016) identified factors that contribute to the academic success of students with DHH who receive the majority of their education in mainstream schools in the United States. Students were recruited from two schools in two different districts in a western state. The study also included the interpreters, educators and parents of the students in individual semi-structured interviews and observations of the students. The results indicated that academic success for these students was the result of different factors. The first factor was human and technological resources. The human resources were the parents of the students, interpreters, general teachers, counsellors, speech therapists and special teachers. The technological resources included digital hearing aids, cochlear implants and a frequency-modulated (FM) system. All of these resources supported the success of the students with DHH. In addition, the social or communication skills of the students were found to be very important for their success, such as asking questions to make sure they understood what others said, being persistent in making sure other people understood what they said, interacting with friends in an acceptable manner and using listening skills. Furthermore, all of the students in this study were involved in extracurricular activities and had high levels of self-determination and the successful students in the study indicated that they were taking responsibility for their success.

A study by Powers (2011) explored the factors influencing the success of high-achieving English students with DHH. Semi-structured interviews were conducted with 27 students with DHH, 27 parents, 27 teachers of students with DHH, and 21 professionals. The main findings indicated that the two key factors attributed to academic success were the students' personal attributes and characters and the influence of their parents. Powers argues that 'this provides

further support to the notion that parents are the key to deaf children's success and that work with parents is one of the most crucial aspects of the work of teachers' (p.92).

Overall, these findings support the results indicated that academic success for these students was the result of different internal and external factors, internal factors being the personal attributes and characters of students with DHH and external factors including the environment support, for example, teachers, parents, and technological resources.

Classroom participation for students with DHH

Classroom participation is an important part of students with DHH learning process. This requires students with DHH to focus on the teacher's explanation, instruction and questions (Tsach & Most, 2016). However, the hearing loss adds significant difficulties and challenges to participation in the general classroom. Due to the fact that inclusive classroom learning is usually based on auditory-verbal communication, the restricted speech skills and difficulties in the production and perception of spoken language may limit classroom participation for many students with DHH (Tsach & Most, 2016). Reed, Antia, & Kreimeyer (2008) found that students with DHH participation in the classroom is associated with various areas of school performance. Class participation allows them to cope better with academic demands, and many students with DHH stated that classroom participation was a key factor in their academic success. Moreover, a sense of involvement in general classrooms for students with DHH has been shown to be related to feelings of better social inclusion (Antia, Sabers, & Stinson, 2007; Foster, Long, & Snell, 1999). A reflective study by Stinson et al. (1996), based on interviews with adults with DHH who were educated in inclusive settings, revealed that, of the several factors contributing to their inclusion

experience in mainstream school, participation in the classroom left the strongest impression in their memories.

A study by Powell, Hyde and Punch (2014) examined how students with DHH studying in New Zealand postsecondary institutions faced and dealt with different challenges in participating in classes, obtaining adequate access to services and becoming socially integrated into campus life. Sixty-five students with DHH completed a questionnaire and eight were interviewed, providing information about learning, support and social participation experiences and challenges within the research context (postsecondary). The findings of the study showed that access to accommodation was critically important to learning and participation experiences, but this was not always available in the postsecondary institutions they attended. However, the study also described positive experiences for students with DHH. Analysis of the results recognised the following as being salient for success: having access to assistive technology and support services, establishing and maintaining positive educational experiences and the quality of social interaction and communication with others.

Another recent study by Alasim (2018), conducted in Ohio in the US, identified a range of strategies that facilitate the interaction and participation of students with DHH in inclusive classrooms at public primary schools. The study also identified the issues that limit students with DHH participation. The participants were two general teachers, one sign language interpreter and four students with DHH. Interviews and classroom observations were conducted in order to collect the data. The results of the study indicate that students with DHH face barriers concerning their participation and interaction in the general classroom, such as , the spoken language difficulties, and they are always busy in the classroom because they working on the task and watching the teacher and

interpreter simultaneously. This is a complicated issue for students with DHH in the inclusive setting, in that they may have difficulties looking at objects, board notes, and words in the classroom, at the same time as engaging in lip reading and following the teacher's interpreter in order to understand the lesson. Dye, Hauser, and Bavelier (2008) describe the connection between visual demands and attentiveness in DHH students as follows:

‘With respect to attentional allocation, problems may arise when there is a conflict between the demands of the environment and the default allocation of resources. For example, in structured learning environments, such as classrooms, the deaf child’s attention has to be focused upon an instructor or an interpreter. When there are sources of visual distraction in the periphery, then a deaf child may appear to be inattentive as their attention is constantly being drawn towards those peripheral events’ (p. 7).

Teachers’ instructions, therefore, should be accessible to all students; Marschark and Spencer (2015) argue that if students with DHH are not able to follow their teachers’ classroom instructions, they are much less likely to productively contribute to lessons. Marschark and Spencer (2015) state that these instructions take the form of ‘instructional strategies and classroom management techniques’ (p.61), and are only accessible by students with DHH if they can perceive and comprehend the language being used.

In addition, Guardino and Fullerton (2010) write that the physical features of the classroom such as organisation, lighting, and seating arrangements can induce students to pay more attention to academic tasks and improve their behaviour. Vermeulen, Denessen & Knoors (2012) stated that most students with DHH require some kind of visual support, which does not necessarily have to be

high-tech; eye contact between DHH students and teachers is one simple form of visual support .

3.6.2 Social Inclusion

Studies have looked at students with DHH social experiences, using terms such as peer relatedness and participation (Leigh and Stinson, 1991), social integration and participation (Hyde and Power, 2004), self-perception or social relationships (Stinson and Whitmire, 1992), social acceptance (Coyner, 1993), social interaction and acceptance (Antia and Kreimeyer, 1997), and social inclusion (McMahon et al. 2016). In addition, Koster, Nakken, Pijl and Houten (2009), analysing a literature of 62 articles, showed that the concept of social inclusion and the related concepts of social participation and social interaction are often overlapping, and conclude that these terms are used as synonyms. The other terms, such as, social relationships, peer acceptance, and social interactions are themes central to all three concepts (Koster et al. 2009). Here, the term 'social inclusion' is employed to cover all of these themes.

The understanding of social inclusion is widely acknowledged as a significant factor in laying the groundwork that makes it possible for students with DHH to succeed academically (Tinto, 1993). McMahon et al. (2016) suggest that this is because the two factors (social and academic inclusion) are closely linked and interdependent. For example, when students with DHH feel they are part of a group, have good relationships with peers, have friends and experience a sense of belonging, they can also take more active roles in the classroom, ask the teacher questions in class and feel comfortable taking part in discussions. In this way, they also, ultimately, gain better academic achievement (Olsson, Dag, &

Kullberg, 2017). Social inclusion for students with disabilities, it is suggested, requires important social, political and economic barriers to be overcome in order to reach meaningful involvement in society (Hill, Davis, Prout, & Tisdall, 2004). According to Koller, Pouesard and Rummens (2018), social inclusion can involve the ability to participate in school activities, engage in break and play time, make friendships and have access to quality inclusive practices in the general classroom. In a qualitative study by William and Downing (1998), they found that students with special educational needs felt an increased sense of belonging in the inclusive setting when they were included in the school activities, made relationship/ friendship in the general classrooms, and participated in the classes. However, Punch, Hyde and Power (2007) argue that, despite the normal distribution of intelligence and skill in students with DHH, they are more likely to experience social exclusion than students with normal hearing.

The next sections will discuss social participation for students with DHH, social interaction and relationships with peers and teachers, all of which are principles of social inclusion.

Social Participation for students with DHH

The social environment appears to have an impact on social participation both negatively and positively, depending on the context (Coster, Law, Bedell, Liljenquist, Kao, Khetani, & Teplicky, 2013). The negative attitudes of others and the close proximity of adults may affect students' social participation negatively (Carter, Sisco, Brown, Brickham, & Al-Khabbaz, 2008; Morrison & Burgman, 2009; Diez, 2010), while the assistance of hearing peers in the classroom, for example, to carry books, helps students with disabilities to participate more positively in classroom activities and breaks (De Schauwer et al., 2009).

Observational and qualitative studies in Sweden, the US, Canada and Iceland have also reported that students with disabilities participate less in both structured and unstructured activities compared to their peers without disabilities and that they experience limited classmate interaction and playground/recess participation (Eriksson, Welander, & Granlund, 2007; Carter, et.al. 2008; Coster, Law, Bedell., Liljenquist, Kao, Khetani, & Teplicky, 2013; Egilson & Traustadottir, 2009). The human rights perspective that underlies inclusion policy stresses that all students with disabilities should have the same opportunities as nondisabled students to participate in all school activities (Simeonsson, Leonardi, Bjorck-Akesson, Hollenweger, & Lollar, D., 2003; United Nations, 2006). However, social participation, according to the biopsychosocial model of disability (World Health Organisation [WHO], 2008), is influenced by students' abilities and interests, features of the context that support or hinder students' efforts to participate and other personal characteristics, such as gender or age. Batten, Oakes, & Alexander (2014) added, in their review of 14 studies, that communication competency, level of mainstreaming of students with hearing impairment, and age were positively associated with their social participation. Therefore, social participation for students with DHH seems to be influenced by an array of factors related to the students with DHH themselves and the environment, which will be examine in this study.

Social Interaction

Studies related to inclusive education and learners with DHH emphasise three principal benefits of inclusion: contact with students with normal hearing and social interaction; naturalistic access to typical linguistic and behavioural models of peers with normal hearing; and students' social acceptance by hearing students (Eriks-Brophy et al., 2012).

Classroom interaction between students, teachers and peers is one of the primary means by which students engage and learn in classrooms. Peck, Odom and Bricker (1993) indicated that interaction is the process of the direct exchange of actions, which can be non-verbal in terms of facial expressions or signs and verbal in terms of written or spoken words. It is a kind of communication between students, peers and teachers. In addition, Rubin, Bukowski and Parker (2006) define interaction as the social exchange between two individuals, which can be in the same time and where the individuals' actions are interdependent.

Eriks-Brophy et al. (2006) indicate that some of the advantages of inclusion that are specific to orally educated students with DHH are the promotion of social interaction with the hearing world, a stimulating and highly oral environment with a richness of linguistic input and the availability of typical linguistic and behavioural models provided by their peers. Koster, Pijl, Houten and Nakken (2007) view interaction in the classroom between students with disabilities in general and DHH in particular with their peers and teachers as a significant aspect of inclusion that encourages parents to enrol their children with disabilities in mainstream schools. According to Koster, Pijl, Houten and Nakken (2007), parents believe that continuous interaction with peers will positively impact the children. In addition, they further assume that continuous interaction is important for integration, social inclusion and participation in the classroom learning process (Koster, Pijl, Houten and Nakken, 2007).

However, other researchers indicate that simply placing students with DHH in mainstream classrooms does not necessarily facilitate meaningful social interaction, positive inclusion, peer acceptance and improvement in students with DHH social communication skills (Antia, Stinson, & Gaustad, 2002; Bobzien et al., 2013; Hyde & Power, 2004; Weisel, Most, & Efron, 2005). In addition, Nunes,

Pretzlik and Olson (2001) indicate that students with DHH are more likely to be neglected by their peers with normal hearing in mainstream classrooms and less likely to have friends in the classroom than their hearing peers. Despite this, it is argued that students with DHH still receive benefits from inclusive education in at least some aspects. Antia (1999) argues that one of the elementary aims of inclusive education is to provide students with DHH with opportunities for everyday interaction with their hearing peers to increase and improve their communication skills. Students with DHH benefit from using their verbal language with hearing peers in order to develop their speech, which is not usually available in special schools for the deaf. It is argued that formal and informal communication in the classroom and out of the classroom with peers and teachers will develop the communication skills for students with DHH. As Stinson and Antia (1999) state, in classrooms in which DHH students are placed, 'teacher-student communication and student-student communication are primary means of learning in the classroom' (p.169).

A study by Xie, Potměšil and Peters (2014) indicated that there is no completely negative or completely positive social interaction between students with DHH and hearing peers in the inclusive setting. They highlight that students with DHH face difficulties and challenges in communication, initiating and maintaining interactions with normal hearing peers. Another study by Batten, Peter, Oakes and Alexander (2014) used a systematic search of five key databases and three specialised journals, and identified 14 papers that met their inclusion criteria. The research focused on factors associated with social interaction between students with DHH and their hearing peers. The main factors investigated were students with DHH communication competency, level of mainstreaming and age, which, overall, were positively related to peer interaction.

For the age factor, three (Cappelli et al., 1995; Martin & Bat-Chava, 2003; Roberts & Rickards, 1994) of the five studies (Cappelli et al., 1995; Lederberg et al., 1986; Martin & Bat-Chava, 2003; Roberts & Rickards, 1994; Wauters & Knoors, 2008) found that older students with DHH had higher social positions and a broader repertoire of coping skills. Older students also revealed more focus on peer relationship goals and reported a greater fear of negative evaluation by normal hearing peers (Cappelli et al., 1995). For the communication capacity factor, eight studies considered communication use and ability (Antia et al., 2011; Bat-Chava & Deignan, 2001; Bat-Chava et al., 2005; Lederberg et al., 1986; Leigh et al., 2009; Most et al., 2011; Roberts & Rickards, 1994; Wolters et al., 2011). The results found that the communication of students with DHH was associated with interaction with hearing peers. Seven studies considered the factor of the level of mainstreaming (Leigh et al., 2009; Most et al., 2011; Musselman et al., 1996; Roberts & Rickards, 1994; Stinson et al., 1996; Wauters & Knoors, 2008; Wolters et al., 2012). Two of these studies indicated that there is a positive increase in educational interaction with normal hearing peers associated with social competence with normal hearing peers and hearing acculturation, and speech intelligibility (Leigh et al., 2009; Most et al., 2012). Therefore, the role of communication gained the highest consensus across studies as most factor associated with social interaction between students with DHH and their hearing peers.

From the literature, it seems that the first reported attempt to explore social interaction for students with DHH in mainstream classrooms in Saudi Arabia was undertaken by Almutairi (2016) in his unpublished thesis. The study explored teachers' and children's perspectives (hearing and children with DHH) on the social interaction of children with DHH attending one primary mainstream school

for boys. The qualitative data was collected through interviews and observations with eleven teachers of deaf children, ten hearing children, six hard-of-hearing children and one deaf child. The results suggested that the participants' views varied regarding the social interaction of children with DHH. The study found that there was little consensus between the participants about definitions of social interaction, which emphasises that the concept of social interaction is a complicated issue. In addition, the findings showed that teachers have also a different understanding of the social interaction. The findings suggested also that barriers that obstructed social interaction included teachers' lack of experience, lack of awareness of local people, lack of support from the Ministry of Education and the Department of Education in the local area and the difficulty of the existing curriculum. Finally, Almutairi's study indicated that all teachers agreed that the inclusive setting was the most appropriate setting for children with DHH social interaction.

To sum up, most of the studies examining the social interaction of students with DHH indicate that students with DHH face difficulties and challenges in maintaining interactions with normal hearing peers. The studies showed also that there are some factors associated with social interaction in both positive and negative ways.

Relationships with peers and teachers

According to Antia (1999), inclusion for students with DHH provides them with the opportunity to interact and establish social relationships with their hearing peers, if they feel accepted and able to form settled social relationships (Antia, 1999). Leigh and Stinson (1991) argue that positive relationships constitute a major factor in higher levels of perceived self-confidence in communication and

social skills, but negative relationships may cause lower levels of perceived self-confidence: 'Higher ratings of perceived social competence were associated with greater participation in class, in school, and in social activities, and also with emotional security with hearing peers' (p.13). In addition, Leigh and Stinson (1991) discovered that perceived social capability was considerably to be connected to students' social experiences and was based mainly on the quality of relationships with hearing and peers with DHH.

Although social relationships are considered crucial for students' future development, many students with DHH have difficulty in forming and sustaining such relationships with hearing peers (Weisel, Most, & Efron, 2005). In addition, research suggest that students with DHH who have poor speech intelligibility also tend to experience more loneliness than students with DHH with better speech intelligibility in mainstream classrooms (Most, 2007; Most, Ingber, & Heled-Ariam, 2011). Nevertheless, Punch and Hyde (2011) argue that, even when students who are DHH have good speech and use hearing aids or have cochlear implants, they still experience many difficulties in their social interaction with hearing peers, especially in noisy environments and group situations.

A study by Bain, Scott and Steinberg (2004) explored the social experiences and coping strategies for 28 adults with DHH. All participants were raised using spoken language and attended mainstream schools for most of their education. Individual semi-structured interviews were conducted with all participants. The results of the study indicated that most of the participants described some level of negative experience regarding social relationships with their hearing peers. According to Bain et al. (2004), the social isolation experiences of participants with DHH were due to limited communication with

hearing peers, missing information in academic, social and work settings, and a sense of being 'different'.

A large number of studies reflect the positive aspects of inclusion and demonstrate the academic achievements of students with DHH, including positive perspectives and acceptance of students with DHH by their peers with normal hearing, and also demonstrate satisfactory outcomes for their social development (Kluwin, 1999; Luckner, 1999; Kluwin & Stinson, 1993; Powers, 1996; Power & Hyde, 2002; Kluwin, stinson, Colarossi, 2002). On the other hand, a few studies show that students with DHH can encounter negative attitudes, such as experiences of isolation, feelings of loneliness or failure to establish strong relationships with their hearing peers (Nunes, Pretzlik, & Olson, 2001; Kent, 2003; Most, 2007; Bain et al. 2004). Many academics state that, in general schools, students with DHH may not be provided with support considered essential to be well educated (e.g. Jarvis, 2002; McCartney, 1994; Powers, 2001). These researchers refer to provisions such as technological aids, specialist teachers and access to the community of people with DHH and their culture.

Walters, Knoors, Cillessen and Verhoeven (2012) conducted a quantitative study involving two students with DHH from different grades (grade 6, which is the final grade in primary school, and grade 7, which is the first grade in junior high school) in the Netherlands. The study focused on the relationships with peers and teachers of students with DHH and the effects of these relationships on wellbeing in mainstream school during the transition from primary school to high school. The findings indicated that relationships with teachers were the strongest predictor of wellbeing for students with DHH in grade 6, but not in grade 7. In addition, the study showed that acceptance by peers was

more important for girls with DHH than for boys with DHH. This study, however, did not focus on the nature of relationships (positive or negative) between students with DHH and their hearing peers and teachers. It is focused particularly on the importance of these relationships from the students with DHH point of view, the gender and the age differences in their relationships.

Overall, it can be argued that students with DHH in inclusive settings have difficulties in establishing and maintaining relationships with peers and teachers, regardless of the importance of these relationships in their opinions. In addition, it can be concluded that there are some factors that could affect the relationship experiences of students with DHH, such as speech intelligibility, age and the gender of students with DHH. The literature indicates also that these factors, and additional factors such as teachers' roles, beliefs and attitudes, classroom condition, technology and students' characteristics, have an impact on the experiences of the two main aspects of inclusion (academic and social inclusion).

3.7 Factors that contribute to inclusive experiences for students with DHH

It appears from the previous literature that many researchers come to different conclusions about the efficacy of inclusion, indicating, therefore, that there are a number of factors that determine effective inclusion for students with DHH, thereby affecting students with DHH performance.

3.7.1 Language skills and modes of communication in the inclusive setting

Hearing loss for children influences all aspects of their language acquisition, from grammar and vocabulary (Marschark et al., 2009) to speech (Tobey, Geers, & Brenner, 1993) and reading (Mayer & Leigh, 2010). According to Jung and Short (2002), children with DHH may exhibit difficulties developing

pragmatic language. Consequently, they may have difficulties with communication, social participation and effective interaction in mainstream or inclusive classrooms (Weisel & Bar-Lev, 1992). This, in turn, can influence students with DHH academic performance and overall educational experience, due to the fact that language is central to the human experience and essential for social and academic progress (Beitchman et al., 1986, 1996).

Because of the communication difficulties for students with DHH, the research indicates that they tend to spend time with and communicate more with peers of like hearing status in their free time or unstructured activities (Kluwin, 1996). As indicated earlier, a study by Stinson, Whitmire and Kluwin (1996) indicates that adolescents with DHH express feelings of isolation in general classrooms; therefore, some prefer to attend special classes with peers with similar hearing statuses (Stinson & Whitmire, 1992). In addition, students with DHH in mainstream schools are stimulated by the extra challenge in educational requirements brought about by the language barrier; therefore, they are obliged to invent new procedures to survive (Anglidis & Arvei, 2007).

Students with DHH use different 'modes of communication' (Gregory, Knight, McCracken, Powers, & Watson, 1998, p.47). The three modes of communication, according to Gregory et al. (1998) are oral communication, or 'oralism', 'total communication' and 'sign bilingualism' (p.47). Paul (2001) defines oralism or oral communication modes as follows: 'The oral communication form refers to the use of speech in expression of information' (p.5). In addition, Paul defines manual or sign communication as follows: 'the sign communication form refers to the use of manual or hand movements in signed systems and both manual and non-manual movements (e.g., eyebrows and cheeks) in sign languages' (2001, p.5). Some students with DHH use only one form of

communication, either oral or manual, to communicate with other people. However, other students with DHH use a combination of the two modes of communication, which is known as 'total communication'.

In Saudi Arabia, students with DHH also use these three modes of communication: oral, which uses Saudi Arabian Arabic; Saudi sign language; and total communication. In Saudi mainstream schools, the main communication method used by students with DHH is oral communication, and some students and special teachers use total communication (oral and sign language). According to Alshowaier, in the World Association of Sign Language Interpreters (WASLY) report (2007), Saudi sign language differs from region to region and, in addition, because Saudi society is conservative and males and females are separated, some signs used by the male Deaf community are different to those used by the female Deaf community. However, Abdel-Fattah (2005) indicates that 'many efforts have been made to establish the sign language used in individual countries, including Jordan, Egypt, Libya, and the Gulf States, by trying to standardise the language and spread it among members of the Deaf community and those concerned' (Abdel-Fattah, 2005, p.212).

There is a debate regarding the best communication mode to use in order to educate students with DHH in general classrooms and special schools. Should oral or sign language be used in mainstream schools? According to Smith (1998), advocates of the oral approach believe that students with DHH should learn to use oral communication, as do the majority of hearing students, to be part of mainstream society. However, this argument isolates other students with DHH who find that other forms of communication are easier to use in mainstream society. A study by Spradbrow and Power (2004) indicates that many students with DHH using speech in mainstream schools regularly seem to interact with

other students with similar hearing statuses, therefore, they may be at risk of 'slipping through the cracks'. In addition, Marscharck et al. (2011) indicate that the use of sign language by students with DHH has been linked to better educational achievement for young students. However again, evidence from college students with DHH suggests that sign language has a limited long-term impact on these students when other factors are controlled (Marschark et al., 2011).

In Saudi Arabia, Abu Shaira (2013) examined the effects of educating students with DHH in mainstream schools on language skills acquisition. The study used a descriptive-comparative survey to collect data from teachers of students with DHH and their parents, to compare the language skills of students attending special schools for the deaf and those attending regular schools. Abu Shaira evaluated both receptive and expressive language skills. The findings indicated that the scores for receptive language were higher than those for expressive language in inclusive settings. Although the results did not find a statistically significant difference, he concluded that the consequences of inclusion were less than anticipated. The researcher attributed this finding to the lack of flexibility in the inclusive setting, which limited opportunities for students with DHH to practise their spoken language and communicate freely with teachers and peers.

Relevant studies (e.g. Antia, Jones, Luckner, Kreimeyer & Reed, 2011; Most, Ingber, Heled-Ariam, 2012 & Wolters, Knoors, Cillessen & Verhoeven, 2012) have shown that speech skills can influence the academic and social experiences and performance of students with DHH, due to the fact that language is central to the human experience for social and academic progress. This suggests also that, although oral and signing students with DHH generally come

into the general classroom with less content knowledge than their hearing peers, when they are educated by experienced teachers of students with DHH in the general classrooms, they can learn as much as their hearing peers (Marschark et al., 2008).

3.7.2 Classroom teachers

Teachers are important in determining the inclusion of students with special educational needs in general classrooms and several studies highlight the role teachers can play in promoting this (Kozub & Lienert, 2003). As indicated earlier, teachers' beliefs and attitudes toward inclusion play a critical and primary role in the success of inclusion for students with special educational needs in mainstream schools, and are considered to be the most significant factor in effective inclusion.

With regard to students with DHH, research also shows that teachers' attitudes are a significant factor that enables students with DHH to feel included in mainstream classrooms (Takala & Sume, 2018; Powell, Hyde, & Punch, 2014; Gibb et al., 2007). However, creating inclusive schools for students with DHH seems to require shared responsibility for accommodation, as well as support services for all school members. This is due to the belief that DHH is an invisible disability that can be forgotten by teachers and sometimes hidden by the student (Takala & Sume, 2018). The teacher may think that a student with DHH is doing well in the classroom, while the student is actually struggling to hear (Powell, Hyde, & Punch, 2013). This may lead to a situation in which the student has the talents and capabilities but is unable to use them because they are unable to hear the teacher's instructions (Takala & Sume, 2018), which may lead, therefore, to the student underachieving (Punch, Hyde, & Creed, 2004). Thus, students with

DHH in mainstream classrooms usually require a certain amount of extra support and individual adjustments by teachers in order to learn well (Morningstar et al., 2015).

A study by Gibb et al. (2007), for example, shows that teachers who support students with DHH in the educational setting can positively impact the students' social relationships and academic outcomes. Another study by Hughes, Cavell and Willson (2001) shows that students with DHH who have good relationships with their teachers also see significant effects on peer acceptance, and positively affect other hearing peers' perceptions of students with DHH.

There are also discussions around the roles of teachers (special and general teachers) in the inclusive school. According to Bowen (2009), both special and general teachers share responsibility for educating all students, including students with DHH, but this commitment requires time for planning and time to discuss classroom expectations and teaching methods. Marcschark et al. (2011) indicates that specialised teachers, based on their experiences, are likely to be more aware of students with DHH (what they know and how they think, problem solving and memory), and how they differ from their hearing peers. Such experiences allow special teachers to develop materials and structural methods that utilise the cognitive strengths of students with DHH. Support for students with DHH from general teachers in the classroom can take various approaches, as indicated in Takala and Sume's (2018) research in Finland. They investigated the kind of support for students with DHH in primary and secondary schools. A questionnaire was completed by 109 teachers, and semi-structured interviews were conducted. The results indicated that secondary school students obtained more support than primary school students, mainly technical or pedagogical support, including clear speech, various oral and written instructions, working in

small groups and using technical devices. In addition, Nelson, Poole and Munoz (2013) showed that the majority of teachers thought that the use of hearing assistive technology improved students with DHH attention in class, spoken language and academic achievements.

There is also discussion around the roles of specialised teachers specifically in the field of inclusive education (Farrell & Ainscow, 2002). Checker, Remine, & Brown (2009) point out that there are different models for special teacher support. The most common model is to withdraw students with DHH from the general classroom to develop and focus on specific skills such as speech, communication and listening. According to Antia et al. (2002), this model is only likely to be effective if the general classrooms and special teachers collaborate.

In Saudi Arabia, withdrawing students with DHH from the general classroom is also a common model for special teacher support, and is also used to develop certain skills such as speech, communication and listening. This approach is also used to provide support to students with DHH who need help with 'difficult' subjects. In addition, special teachers are responsible for attending sessions with general teachers to support the students in the general classrooms. They are also responsible for providing the students with individual education plans to support their learning.

3.7.3 Technological classroom support

In addition to the pedagogical support from teachers, including clear speech, various oral and written instructions and working in small groups, the use of technological support in the classroom can enhance learning for students with DHH (Takala & Sume, 2018). Technology, including text communication or visual devices, as well as speech-to-print computer software, can generally have a

positive influence on students with DHH access to general classroom (Shah, 2011). These information and communication technologies and their instructional use has increased significantly in the 21st century (Takala & Sume, 2018). Bricker (2015) describes today's students with DHH as pioneers, showing people what they are capable of and what they can do when they are provided with technological tools such as iPads, tablets, Smart Boards, digital cameras and computers, which provide them with access to learning. In some schools in Saudi Arabia, students with DHH have been offered the opportunity to learn using computerised instructional packages (Bagabas, 2016). Bagabas's study showed that students with DHH using these packages in their studies achieve better results than students who study without them. Another recent study by Aldahmashi and Alanazi (2017) examined the efficiency of using technology to teach students with DHH the skills of writing and reading in English in Saudi Arabia using semi-experimental methodology. The results showed that students with DHH who learn using educational computer software are more capable than other students who learn in traditional ways. In addition, the results indicate that this way of learning helps to minimise the worries and concerns of students with DHH more than students who learn in traditional ways. Therefore, teachers need to take advantage of the technology when teaching all students, including students with DHH, in the general classroom.

Finally, Takala and Sume (2018) argue that technology is not the only solution for the inclusion of students with DHH, as other support services and factors need to be considered. The NDCS (2015) argues that:

No technology can replace normal hearing and its effectiveness depends on the acoustic quality of the school. The listening

environment in a typical classroom can make it difficult for deaf pupils to make best use of their hearing technologies. (NDCS, 2015, p.51)

3.7.4 Classroom conditions

Another important factor, then, that seems to determine effective inclusion for students with DHH is the creation of a good listening environment, such as the atmosphere and noise level (NDCS, 2015). Antia, Jones, Reed and Kreimeyer (2009) argue that poor classroom listening conditions can create considerable difficulties for students with DHH, reducing their access to academic content and limiting their participation in the classroom. A study by Guardino and Antia (2012) examined the effect of physical modifications within the classroom on the disruptive behaviour and academic engagement of students with DHH in self-contained classroom. Three classrooms in a special school for the deaf were modified, including changes to seating arrangements, visual stimulation, classroom organisation and acoustic quality. The results showed a functional relationship between the physical environment and both a decrease in the level of disruptive behaviour and an increase in the level of academic engagement.

3.7.5 Students' characteristics

Brophy et al. (2007), in their study findings, indicated that the particular characteristics of students with DHH were perceived as one of the most factor impact the social inclusion for students with DHH. These characteristics included a self-confident attitude toward their communication needs in social and community settings, openness and willingness to explain and discuss their hearing loss, and the ability to maintain a sense of humour in situations in which misunderstandings or miscommunication happened. Other researchers indicated that there are factors external to the students with DHH which are similarly

significant considerations in terms of the effectiveness of inclusion for these students (e.g. Antia, 1999; McDermott & Varenne, 1995; Mehan, Hertweck, & Meihis, 1986), such as the ability of conversational partners to adapt and organise interactions and discourse structures to respond to others. The level of motivation, level of anxiety, study habits and strategies, identity issues and self-advocacy (Albertini, Kelly, & Matchett, 2012) can also play a critical role in their success. However, this view has been criticised as ignoring the educational and societal context for the success of inclusion of students with different disabilities. In addition, this perspective suggests that the students themselves are responsible for their own success or failure in the inclusive setting. In addition, research shows that the attitudes and behaviours of students with DHH also have a significant impact on their ability to obtain support from their teachers. For example, Vermeulen, Denessen and Knoors (2012) show that teachers' perceptions of students with DHH having disruptive attitudes in the general classroom leads to the development of negative attitudes toward these students, which may generate obstacles to their inclusion in the school setting. On the other hand, students with DHH who hold positive attitudes can receive support more easily from their teachers within the inclusive setting.

It is clear that many factors may determine effective inclusion for students with DHH. Disaggregating the influence of these factors is difficult because they are often related in complex ways and are likely to be connected with each other. For example, the usage of technology in the classroom may not be sufficient if the classroom has high levels of background noise. In addition, speech communication skills are not sufficient if the student does not have the ability to adapt and organise interactions with others. Nevertheless, examining these factors gives researchers the opportunity to understand the situation.

3.8 Conclusion

To summarise, the literature review has revealed that the experiences of students with DHH in inclusive settings are not addressed in depth internationally and in Saudi Arabia. The available international literature on students with DHH experiences shows some gaps and limitations in the area of students with DHH. Firstly, a significant number of studies have investigated students' experiences using solely quantitative methods rather than attempting to understand the situation in depth, which may be better achieved by qualitative methods. Secondly, the available qualitative studies tended to use one method of data collection, or has focused on the experiences of students with DHH in the inclusive setting in terms of only one aspect; for example, social participation.

In Saudi Arabia, the literature on inclusion is focused on teachers' and administrators' attitudes toward inclusion and just a few studies (e.g. Al-Mousa, 2010; Al-Zahrani, 2005; Almutairi, 2016) have explored inclusion for students with DHH in general schools. As noted earlier, Al-Mousa (2010) investigated the experiences of students with special educational needs, including students with DHH, using a questionnaire. Al-Zahrani (2005) conducted a comparative study of students with DHH social and emotional development in mainstream and special schools in Saudi Arabia. Almutairi (2016) also focused on one aspect of inclusion, which was social interaction for children with DHH in a primary school. Therefore, in this study I will seek to address the above mentioned gaps to gain a better understanding of the experiences of students with DHH in the inclusive setting. The next chapter addresses the methodology adopted in this research to answer the research questions.

Chapter Four: Methodology

4.1 Introduction

This chapter details the research methodology and is divided into nine main sections. Firstly, it presents for a second time the aim of the study and the research questions, which was presented in the first chapter. The second section reviews the interpretive approach that was adopted in this research and its philosophical assumptions. The third section explains the methodological approach while the fourth section highlights the methods of data collection used in this research and the rationale for choosing these methods, followed by an explanation of how these methods were employed in practice. This will be followed by a section presenting the participants, the research design and the data collection procedures. The section following that will detail the approach to the data analysis and is presented with clarifications regarding the software package used to support the analysis. The eighth section addresses the trustworthiness of this study and its credibility in relation to its philosophical assumptions. Finally, the last section sheds light on the ethical considerations of the study.

4.2 Aims and Research Questions

The overall aim of the research is to gain an in-depth understanding of how female students who are deaf and hard of hearing (DHH) describe their experiences in a Saudi Arabian inclusive secondary school. Based on this, the specific aims of the study are as follows:

- To gain an in-depth understanding of what female secondary students with DHH feel about their learning and social experience in an inclusive classroom.
- To explore the views and attitudes of female secondary students with DHH toward the inclusive setting in the context of a Saudi mainstream school.
- To gain an in-depth understanding of how female secondary students with DHH are supported in the context of a Saudi mainstream school.

The research questions can be formulated as follows:

- What are the experiences of female students with DHH in one inclusive setting in Saudi Arabia?
 - What are the perceptions and attitudes of female students with DHH toward their inclusive setting in Saudi Arabia?
 - How do female students with DHH describe their academic and social inclusion in an inclusive setting in Saudi Arabia?
- How do teachers describe their experiences of students with DHH in their school?
- How do teachers support students with DHH in their mainstream school?

4.3 Philosophical assumptions

A paradigm is a way of describing a worldview that is informed by philosophical assumptions about the nature of social reality, which can either be known as ontology (what we believe about the nature of reality and about ways of knowing) or epistemology (how we come to know what we know).

4.3.1 Ontology and epistemology

In order to explain the philosophical assumptions of this research, I first need to further define the two important philosophical notions referred to above: *ontology* and *epistemology*. Starting with the term ontology, a simple explanation

of this notion has been suggested by Crotty, who defined ontology as 'the study of being' (1998, p. 10).

Denzin and Lincoln also explained that ontology is an assumption about reality (Denzin and Lincoln, 2000). Ontology is associated with a central question of whether social entities must be perceived as subjective or objective. Accordingly, objectivism and subjectivism can be considered as two important ontological stances that lead to different beliefs in different paradigms (i.e. positivism and interpretivism).

According to Cohen (1998, p. 10), the concept of epistemology is 'concerned with the nature and forms of knowledge' and relates to the source of knowledge. How knowledge can be created and communicated, or in other words what it means to know, is the concern of epistemological assumptions. Guba and Lincoln (1994) clarified that epistemology is asking the question 'what is the nature of the relationship between the would-be knower and what can be known?' (p. 10). Burrell and Morgan defined the two main epistemological positions adopted by researchers: Objectivism and subjectivism. Objectivism (positivism) views knowledge as those statements of belief or fact that can be tested empirically, can be confirmed and verified or disconfirmed, and are stable and can be generalised (Eichelberger, 1989). Subjectivism (interpretivism), however, relates to another form of knowledge, which is subjective, 'soft' and abstract (Burrell and Morgan, 1979). Those who believe in the subjectivity of knowledge tend to reject natural science methods, while researchers who affirm the objective nature of knowledge argue the need to use scientific methods through which researchers can measure a phenomenon objectively (Cohen, Manion and Morrison, 2018).

Educational research is dominated by two major philosophical traditions, or paradigms (Galliers, 1991): the positivist, sometimes called scientific, and the interpretivist, also known as the anti-positivist or constructivist paradigm. Both paradigms have their own theoretical framework and philosophical assumptions in order to answer different questions. This study is rooted in an interpretive paradigmatic approach in order to answer the research questions.

4.3.2 Interpretivism

Based on the exploratory nature of this study, the natural orientation of interpretive, qualitative research is the appropriate choice. This study therefore tried to clarify how understanding and interpretations are implemented, formulated, and given meaning in the participants' experiences of their inclusive setting, which is the purpose of interpretive research (Radnor, 2002). The interpretive research paradigm (often combined with constructivism) is 'such a perspective, and it is typically seen as an approach to qualitative research' (Creswell and Creswell, 2018. p. 7). Interpretivism is a tradition that seeks to understand the world as others experience it based on the assumption that individuals seek an understanding of the world in which they work and live (Crotty, 1998) and develop meaning directed toward certain things or objects from their experiences. In other words, interpretivism is mainly concerned with human interpretation, understanding and intersubjectivity. The aim of interpretive research is to rely as much as possible on the participants' opinions and views of the situation being studied. As Taylor (1995) suggests, 'the interpretation aims to bring to light an underlying coherence or sense' (p. 15). In this research, I believe that reality (ontology) and knowledge (epistemology) are socially constructed and recognised through the process of data collection, analysis and interpretation. It explores and describes the experiences of the inclusion of female students with

DHH in order to understand them better within the Saudi context. Saudi Arabia is different from the UK in terms of language, culture, education, lifestyle, thoughts, and potentially with regard to experiences and attitudes toward inclusion.

Several contextual factors within the Saudi inclusive setting are explored in this study and may contribute to the knowledge of this particular context. This study aims to reach an in-depth understanding of how students with DHH construct their experiences in an inclusive setting and also aims to understand their attitudes toward inclusion. For that reason, an interpretive approach was followed and qualitative methods were used in order to align with the aims of the study.

Qualitative methods explain behaviour from the participants' perspectives, yield insights and understandings of behaviour, and do not dominate the participants. The semi-structured interviews, open observations and focus groups, which were conducted in this research, are three interpretive methods that usually generate qualitative data. Since analysis, according to Scotland (2012), results from the researchers' interpretations, they need to make their value systems and agenda explicit from the outset.

4.4 Methodological Approach

The methodological approaches within an interpretivist paradigm focus on understanding a phenomenon from an individual's perspective, investigating interactions between individuals as well as their cultural and historical context (Creswell, 2014). As an interpretive piece of research, this study adopted a case-study approach employing several methods and techniques for gathering and analysing data (Grix, 2004). Yin (2018) indicated that 'the case study is used in many situations, to contribute to our knowledge of individual, group,

organisational, social, political, and related phenomena' (p. 4). A case-study methodology can be defined as 'an approach to research that facilitates exploration of a phenomenon within its context using a variety of data sources' (Baxter and Jack, 2008, p. 544). Through a case-study approach, I was able to explore the inclusive setting in the Saudi context by using multiple data collection methods, such as semi-structured interviews, unstructured observations, and focus groups.

Moreover, the case-study approach, according to Creswell (2014), allowed me as the researcher to evaluate the experiences and views of female students with DHH about inclusion through an in-depth analysis of individual cases. In addition, Cohen, Manion and Morrison (2018) stated that 'a case study provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories or principles' (p. 376). The case-study approach is particularly useful when researchers need to obtain an in-depth appreciation of an issue, event or phenomenon of interest in its natural real-life context. Therefore, the case-study design was chosen since each case, i.e. every student with DHH, experiences inclusion in the Saudi mainstream school context in a real-life setting. Hitchcock and Hughes (1995) consider that a case study has several characteristics:

- It is concerned with a rich and existing description of the case events.
- It provides a chronological narrative of the case events.
- It mixes a description of the case events with an analysis of them.
- It focuses on particular events that are related to the case.
- The researcher is involved integrally in the study case.
- It is an attempt to present the case that helps the researcher[s] to capture the richness of the situation.

- It focuses on individual participants or groups of participants and seeks to understand their perception of events. This is a fundamental feature of this study as it focuses on a group of participants as multiple cases (12 DHH students) in order to understand their experiences and attitudes toward an inclusive setting in Saudi Arabia.

In terms of the variety of sources of data, the case-study research enables researchers to gather information using multiple methods and 'gives a unitary character to the data being studied by interrelating a variety of facts in a single case. It also provides an opportunity for the intensive analysis of many specific details that are often overlooked with other methods' (Theodorson and Theodorson, 1969, cited in Punch, 2005, p. 145). In addition, Patton (1990) and Yin (2018) indicated that one of the main advantages of case-study research is the use of multiple data sources, which also increases the reliability of the data. Denscombe (1998) also argued that the case-study approach allows researchers to use a variety of research methods, a variety of sources, and a variety of types of data as a part of the investigation, which is one of the strengths of this approach. Denscombe also indicated that such a design does not only allow researchers to use multiple methods, but actively encourages them to do so. Therefore, in this study, as previously stated, different research methods including semi-structured interviews, unstructured observations and focus groups, were used to collect data. According to Bat-Chava, Martin and Kosciw (2005) and Leigh, Maxwell-McCaw, Bat-Chava and Christiansen (2009), there are benefits of using multiple sources of data such as the reports of students, their parents and their teachers. Interviewing teachers about students with DHH psychosocial functioning at school can add detail and depth to the picture of students' social interaction and participation in the school environment (Knors,

Meuleman and Klatter-Folmer, 2003). Of course, the most important issue was to gather the experiences of the students with DHH themselves (the 12 case studies), which was the main aim of this study. According to Gordon (2010), 'it is important to conduct studies from the student's perspective since they are the recipients and participants of inclusive educational practices'(p. 1).

This study explored participants' experiences and perceptions about inclusion within a case-study design. Each of the 12 participants were included in a multiple case study design, which is described below.

4.4.1 The Multiple-Case Study Design

The reason for adopting a multiple case study design in this research lies with its potential to generate valuable data, which can strengthen this study (Yin, 2018) and enhance its trustworthiness (Miles and Huberman, 1994). Stake (1995) pointed out that a case study should be 'bounded' so the case is a separate entity in terms of place, time, or some physical boundary. This bounded system may be as simple as a single individual or group, or as complex as an organisation or neighbourhood. It could also be events, a programme or an activity. Multiple case studies, or collective case studies, involve the extensive study of a number of cases. For the purpose of this case study, 12 students with DHH were researched, which allowed me to examine the practices of inclusion and findings across the cases and to identify how individual cases (the boundedness of this study) might be affected by specific conditions under which results might arise. An analysis of contrasting and similar cases of students with DHH experiences can elucidate the understanding and interpretation of a single-case finding (Yin, 2018).

4.4.2 Limitations of the case study approach

Despite all the above strengths of the case-study methodological approach, the literature also reveals several shortcomings pertaining to the difficulty of generalising any findings to a wider population (Kumar, 2011; Yin, 2018).

However, the focus of this study is not to make generalisations of its findings to a wider population, but rather to provide a holistic understanding of the experiences of students with DHH toward inclusion because of the limited literature in this area (Yin, 2018). In general, case-study research does not seek statistical generalisation; however, analytical generalisation may enable the researcher to understand other phenomena or situations that are comparable to the case under assessment (Cohen, Manion and Morrison, 2018).

4.5 Data Collection Methods

In order to answer the research questions and because of the case-study methodological approach, this study employed three data collection methods that allowed me to gain an in-depth understanding of the phenomenon. These were semi-structured interviews, unstructured observations and focus groups.

4.5.1 Semi-structured interviews

Interviews are commonly used in research and they are a valuable method for collecting in-depth information. According to Yin (2018), one of the most significant sources of case study research is the interview. There are considered to be three types of interviews, namely structured, semi-structured and unstructured – and choosing which type to use depends on the researcher's familiarity and knowledge of the research and its purpose, as well as the nature of the study (Drew, Hardman and Hops, 2008). The aim of using semi-structured

interviews in this study was to gather detailed data about students with DHH experiences, perceptions and views about inclusion. This is because the interview, according to Arksey and Knight (1999), is one method by which the people of the world, and the world of meanings and beliefs, may be explored.

Moreover, it has been argued by Kvale (1996) that the interview is the most widely used qualitative method in research that enables researchers to elicit narrative data and to investigate participants' views in greater depth. The claim for using interviews in research is that emotion, memory, perception and understanding are not objective aspects but rather human constructs. The feelings, views, and experiences of people are all subjective aspects to be explored, and need to be co-constructed and explored in depth by giving the participants the opportunity to express themselves, which can be done through conversations via interviews. As Cohen et al. (2018) indicated, interviewing is 'a valuable method for exploring the construction and negotiation of meanings in a natural setting' (p. 29). Likewise, Kvale (1996) defined the interview as 'a conversation, whose purpose is to gather descriptions of the [life-world] of the interviewee' with respect to interpretation of the meanings of the 'described phenomena'(p. 174).

There are many reasons for choosing the semi-structured interview in this research. According to Bernard (1988), the semi-structured interview is the best method when the researcher wants to have more than one chance to interview someone – which was the case in this research, as every student was interviewed twice. Semi-structured interviews are used when more useful data needs to be gathered from more focused, yet conversational, two-way communication with the participants. Semi-structured, in-depth interviews are the most commonly used interviewing approach in qualitative research and can take place either with

individuals or groups (Bloom and Crabtree, 2006). In addition, the semi-structured interview schedule is commonly controlled around a set of prearranged, open-ended questions, and other questions that may arise from the conversation between the researchers as interviewer and interviewees. Furthermore, the use of a semi-structured interview allows the interviewer to prompt and probe deeper into a given situation (Kajornboon, 2005).

Thus, as Cohen et. al (2018) stated, the interviewer may clear up any misunderstandings or gain more depth, which enables them to test the limits of the participants' knowledge. Thus, with the semi-structured interview I was able to probe or ask more in-depth questions about the interviewee's responses and did not simply follow the interview schedule to the letter. In addition, a further strength of the semi-structured interview is that the researcher can explain or rephrase questions that interviewees do not understand. However, probing deeper into a situation is not always easy, meaning that the interviewer needs to be skilful.

Despite all the advantages mentioned above, one of the difficulties of the semi-structured interview is that the interviewer should be skilful and experienced, because unskilful interviewers are often unable to ask prompt questions meaning that important information may be missed (Kajornboon, 2005). However, as a researcher, I have had experience in interviewing students with DHH as I have already interviewed eight primary students with DHH for my Master's thesis. In addition, interview trials were conducted in this research and were followed by a meeting with my supervisor. This allowed me to improve the way interviews were conducted for the main study.

In this research, two semi-structured interviews were conducted with each participant to obtain the required data from the 12 individual cases, making a total

of 24 interviews. The reason for using *semi-structured* interviews in this study was because certain themes needed to be explored. The first interview started with exploring particular themes and questions that had identified from the literature review and the interview schedule was based around these themes, which included the students' background, education, school experiences (feelings, emotions, general comments, reflections), relationships (with teachers, peers), participation in learning, school activities, exams and support (see Appendix 1).

For the second interview, a number of the themes and questions that had emerged from the initial analysis of the first interview and the two conducted observations will be discussed in more detail. I had the opportunity to add and think about more questions for the second interview, which led to a different interview schedule for each participant. This meant that the first interview followed the same initial schedule for all participants, but the second interview was different for each participant because it did not just stick to the same schedule. The second interview also gave the participants the opportunity to add or change issues that they were talking about. The semi-structured interviews were carried out in Arabic, which was the first language of all the participants. I adapted the interview process to the needs of the students with DHH by making it deaf-friendly (e.g., I used short and clear sentences and questions). In addition, regarding the first interview schedule, I asked another doctoral student to volunteer for an interview trial to find out about any issues that might need to be corrected or improved. The interview schedule was also discussed with my supervisor, which led to the removal of one particular question ('Did you ever feel marginalised?') as a leading question.

In addition, five semi-structured interviews were conducted with teachers as additional sources of data (two general teachers and three special teachers). For the teachers, I developed a specific interview schedule with different themes in order to explore their perceptions about their students who participated in this research. For example, how would the teacher describe the case, the participant's needs, the participant's relationships with peers and teachers, the way of teachers support in the classroom etc.? (see Appendix 2).

In the interviews with students and teachers, the questions were not asked according to their order on the interview schedule, but rather in an order that depended on each participant's responses.

The semi-structured interview method was considered appropriate for this study because of its flexibility in sequencing the conversation. This provided the opportunity for the participants to provide detailed information of the phenomenon under study (Cohen et al., 2018). Each interview was recorded by a voice recording device with the students' and teachers' permission.

4.5.2 Unstructured observations

According to Yin (2018), 'because a case study should take place in the natural setting of the 'case', you are creating the opportunity for direct observations' (p. 121). Yin added that observations can be applied as yet an additional source of evidence in a case study research. Observational data afford the researcher the opportunity to gather 'live' data from a 'live' situation. As a researcher, the observations allowed me to see what was actually happening in the classrooms rather than gather second-hand data (Patton, 1990). Marshall and Rossman (1989) defined observation as 'the systematic description of

events, behaviours, and artefacts in the social setting chosen for study' (p. 79).

Moreover, Denscombe (1998) stated that:

'Observation offers the social researcher a distinct way of collecting data. It does not rely on what people say they do, or what they say they think. It is more direct than that. Instead, it draws on the direct evidence of the eye to witness events first hand. It is based on the premise that, for certain purposes, it is best to observe what actually happens' (p. 139).

Unstructured observation is essentially used by researchers to infiltrate a situation and to understand the culture and processes of the group being investigated. This type of observation usually produces qualitative data (Denscombe, 1998). However, the word 'unstructured' in relation to observation does not mean that this type of observation is unsystematic or sloppy within the interpretive paradigm (Mulhall, 2002).

Mulhall (2002) added that the observer in the unstructured observation does not follow a checklist of predetermined behaviours. Rather, he or she may have some ideas as to what to observe (themes), and these may change over time whether during the data collection process (observation time) or after collecting data and gaining experience in a particular setting. For example, in these observations I observed specific themes, such as the student's participation in the classroom, the relationship with students and teachers, the interaction between students, the acceptance by peers, and any reaction from the participant when dealing with peers and teachers; whatever may be meaningful for the research aims.

In this study, two unstructured observations were conducted in two different classroom sessions for each of the 12 participants, with a total of 24 observations. These two observations were conducted between each of the two

interviews with the students. The aim of employing unstructured observations in this research invoked certain themes, such as gaining insights into the interaction between students, exploring the whole picture of the classroom participation, capturing the context, and information about the influence of the physical environment. In addition, according to Schmuck (1997), unstructured observations are useful to researchers because they provide researchers with methods to determine who interacts with whom, nonverbal expressions of feelings, raise awareness of how participants communicate with each other, and identify the amount of time spent on different activities (cited in Kawulich, 2005). Therefore, the observation method was used in this study in order to observe participants in their context and to understand how they participate in their classrooms, how they interact with their peers and teachers, the nature of the relationship between the participants and their peers and teachers, and the acceptance between peers of the classroom's inclusive situation.

The unstructured observation in this study also compares what the participants said during the interview with what they actually did in a real-life situation and discusses this with the participants themselves in the course of the final interview. The observation also allowed me, as a researcher, to verify the explanations put forward by the participants during the interviews. In addition, it allowed me to think about additional questions and themes for the second interview.

The unstructured observations were recorded in a type of schedule in a blank notebook (see Appendix 3), which included the session and teacher name and the date and time of the session. In the observations, every act and reaction was recorded in writing in Arabic and then typed up immediately. Two observations were translated into English as examples for my supervisor.

The general teachers in these sessions were not all participants in this study, but they gave their permission for me to attend and observe the sessions. They were also all aware that I was observing students with DHH in the session. The chosen sessions were dependent on the teacher's permission, as well as the nature of the session. For example, some sessions that were observed required some classroom activities: participation as well as discussion. However, some sessions did not include these activities and were therefore not observed, for example, Qur'an studies.

The piloting of the observation method and recording took place in the same school. I attended one session in a classroom that included students with DHH. I performed an unstructured observation of one student with DHH (who was not a participant in the main study). The pilot observation enabled me to practise how to focus on and observe events and issues in the classroom. It also helped me practise making handwritten notes, while simultaneously observing what was taking place.

4.5.3 Focus groups

This research also employed focus group discussion as an additional method of collecting data. The focus group is a technique where the researcher assembles a group of individuals to discuss a specific topic in order to study the complex personal beliefs, experiences, views and attitudes of the responders through a moderated interaction (Hayward, Simpson and Wood, 2004; Morgan, 1996). The focus group has also been defined as 'a carefully planned discussion designed to obtain perceptions on a defined environment' (Kreuger, 1998, p. 88) or 'an informal discussion among selected individuals about specific topics' (Beck, Tornhetta and Share, 1986).

Focus group discussions with students with DHH were conducted in this study for several reasons. This data collection method was employed to gather further in-depth data from participants, to validate data collected via semi-structured interviews and observations and for triangulation purposes (Cohen et al., 2018). Furthermore, the focus group allowed me as a researcher to capture views and perceptions among the participants about the inclusive setting (Denscombe, 2014). As explained by Fletcher, Allen, Harkins and Mike (2010), other advantages of focus groups include the fact that they allowed me as a researcher to observe interactions between the group participants and to record these interactions and conversations. In addition, another advantage is that this method can be employed as a learning tool whereby students with DHH were expressing different views, thereby gaining knowledge through learning from each other during the discussion. Also, based on my experience, several students with DHH have difficulties with speaking and therefore feel embarrassed to talk and express themselves individually. Hence, the focus group discussion may have encouraged them to talk and feel comfortable with sharing their experiences together.

Furthermore, the focus group method, according to Fletcher et al. (2010), provides 'participants with the opportunity to react to their fellow participants' responses which may often trigger each participant to more profoundly consider their own responses, consequently eliciting more information' (p. 6).

The focus groups conducted in this study involved two small groups of six and four students who discussed their experiences and perceptions toward the inclusive setting in Saudi Arabia (two of the 12 case-study participants chose not to take part in the focus groups). According to Smithson (2007), a focus group is generally understood to be a group of six to 12 participants, with the moderator

(or interviewer) asking questions about a particular topic. Although several themes from the interviews and observations were discussed in the focus group, the students were given the opportunity to discuss whatever they felt was relevant. Therefore, while the same themes were discussed, some themes also emerged but these were not directly related to the aim of this research. Therefore, the focus group did not generate new themes that could be used in this research, although the data collected were added to the general themes.

One of the disadvantages of a focus group discussion is that sometimes one participant may provide inappropriate information, and therefore no response can be understood. Another limitation of the focus group is that this method may involve a power struggle among participants whereby one or two participants may dominate the discussion (Stewart and Shamdasani, 2015). This actually occurred in one of the two focus groups in this study when two participants had a discussion and expressed different opinions about the best setting from their point of view. In this case, I allowed both to express their views before I mediated to give the other participants in the group the chance to give their opinion.

Another difficulty with focus groups in this study is that sometimes more than one participant will be talking at the same time, while others may be shy about discussing their experiences and expressing their opinions (Stewart and Shamdasani, 2015). Moderating the focus group can often be difficult and the data obtained by recording can be difficult to transcribe and analyse (Pini, 2002). However, in the focus groups in this study, in order to avoid this issue around the overlap of voices, I tried, as a moderator of the discussions at the beginning and during the focus groups, to give all the participants the opportunity to talk, thereby allowing me to recognise each participant's voice on the digital recording. Furthermore, while a participant was talking, I mentioned her name in order to

recognise her voice when transcribing the audio data. In addition, immediate transcription of the focus group data was carried out in order to support recognition of each participant. The procedures of the focus group as well as the entire data collection process are clarified in more detail in this chapter. Table 3 presents the full data collection methods used in this study.

Data collection methods	Participants	Procedures and total number
Semi-structured interview	Students with DHH (12 cases) Teachers (two general and three special teachers)	Two semi-structured interviews with each participant (24 interviews). Five semi-structured interviews with teachers (five interviews).
Unstructured observation	Students with DHH (12 cases)	Two unstructured observations of each participant in two different sessions (24 observations).
Focus group	Students with DHH (12 cases)	Two small focus groups of six and four students (two focus groups with ten cases).

Table 3: summary of data collection methods and participants

4.6 Participants

The participants in this study were 12 female students with DHH, each of whom constituted a separate case, in one secondary school in Saudi Arabia. In addition, five teachers (two mainstream teachers and three special teachers) from the same school participated in this research. As per Saudi Arabia's regulations, in order to collect data from schools I had to contact the Ministry of Education in the city where the research was conducted. After being granted permission from the Ministry of Education to carry out the study, the school gave

me their permission to access and collect data from the school. This female secondary school was chosen because it is the only school that employed full inclusion in the city where the study was conducted (see Chapter 2, the school context).

I collected the available general information about all students with DHH (23 in total) in the school from the school's administration, such as the age of the participant, their level of DHH, their medical conditions and their other disabilities. Based on this information, I decided to remove three students from the study because of their additional disabilities as well as two other students that were not regularly attending the school because of the lack of transportation and other particular problems. The exception of the students with DHH and additional disabilities is because this study focused on students with DHH and this additional disabilities may affect their experiences in the inclusive setting because of the other learning challenges. For example, one of the girls has a visual impairment and the other two cases have mild intellectual disabilities in addition to the DHH, which may cause additional learning challenges for them.

Before collecting the data, all students with DHH in the school were gathered together in order to explain the aim of the research and the procedures to be followed in the study to ensure they were fully aware about the research. This meeting was held in the resources room in the presence of all the special education teachers. I provided the students with consent forms to formally seek their agreement to participate in the study and they were informed that their participation was voluntary (see Appendix 4). I explained the project and ensured that they were given sufficient information about the research aims and procedures and were not subjected to any form of pressure. They were also assured that there would be no negative consequences if they declined to

participate. An information sheet was given to them explaining clearly that they did not have to take part if they did not want to and that all students and teachers had the right to withdraw their participation if desired. In addition, another consent form was also sent to all the parents (see Appendix 5). Most students and their parents signed and returned the consent form with their agreement although some of them did not return it.

As clearly stipulated in the consent form, not returning the form meant that they agreed to participate. The form stated, 'by not returning this paper, I will assume agreement'. Two parents, however, refused to allow their daughters to participate and four more students did not agree to participate in the study. Therefore, a total of 12 students agreed to participate in the research, which is a relatively sound number of participants for a qualitative research. According to Guest, Bunce and Johnson (2006), saturation often occurs around 12 participants in homogeneous groups. This small number of participants is acceptable in this qualitative research project due to the fact that this research does not seek to generalise findings, placing importance instead on the complexity, detail and depth of the research findings. The participants were all female students with DHH aged between 16 and 21 years old from one mainstream girls' secondary school (Al Kauthar) in a large city in Saudi Arabia. Five teachers participated in this study: three specialist teachers and two general teachers. The specialist teachers were chosen based on their teaching experiences in the school, and their familiarity with the students with DHH who participated in the study. Three other specialist teachers were new to the school and not familiar with the students, therefore I excluded them from the study. The school is also home to 12 general teachers who teach in classrooms that include students with DHH. I selected the six teachers who I deemed most familiar with the students (no less

than four teaching sessions per week), and two agreed to participate in the study. There were a consent paper for the teachers to sign, although they both agreed to participate verbally.

The above shows that the student participants and teachers were purposefully selected, which is the most commonly used strategy in qualitative research (Marshall, 1996). According to Cohen, Manion and Morrison (2018), purposive sampling allows researchers to 'handpick the cases to be included in the sample on the basis of their judgement of their typicality or possession of the particular characteristic' (p. 218). Unlike other types of sampling, the purposeful sample allowed me as a researcher to 'actively select' the most productive sample to answer the research questions (Marshall, 1996). Purposive sampling, according to Patton (1990), involves selecting cases according to specific criteria. Therefore, in this study, two criteria were used to select the students. First, the students should be diagnosed as having a DHH disability. The second criterion is that the participants should not have any additional disabilities that may affect their experiences. As indicated before, the additional disabilities may add additional learning challenges that may affect their experiences. Only one criterion was used for selecting the teacher participants, namely familiarity with the participating students. This means that the general teachers knew the students very well due to the fact that they taught them several lessons on a weekly basis. Tables 4 and 5 below present the overall demographic information for the student cases and the teachers who participated in this research.

Case number	Name of participant (pseudonym)	Age in years	Year
1	Abeer	20	3
2	Faten	18	3
3	Rawia	18	3
4	Sara	16	2
5	Arwa	17	2
6	Rem	17	2
7	Maram	21	2
8	Hatan	17	2
9	Lama	16	1
10	Roaa	16	1
11	Fager	16	1
12	Munera	16	1

Table 4: Overall demographic information for the student cases

Name of teacher (pseudonym)	Type of teacher and specialisation	Year taught	The teacher's students
Hanadi	General teacher (Bachelor certificate in English Language)	Year 1	Lama, Roaa, Fager, Munera
Saga	General teacher (Bachelor certificate in Computer science)	Year 2	Hatan, Maram, Sara, Rem, Arwa
Maria	Special education teacher (Bachelor certificate in DHH)	Year 1	Lama, Roaa, Fager, Munera
Hana	Special education teacher (Bachelor certificate in DHH)	Year 2	Hatan, Maram, Sara, Rem, Arwa
Amal	Special education teacher (Bachelor certificate in DHH)	Year 3	Abeer, Faten, Rawia

Table 5: overall demographic information for the teachers

4.7 Research design and procedures

Every type of empirical research has an explicit or implicit design (Yin, 2018). A research design, according to Creswell and Creswell (2018), is a 'type of inquiry within qualitative, quantitative, and mixed methods, approaches that provide specific direction for procedures in a research study' (p. 11).

Kumar (2011) also defined a research design as a plan of procedures that guide the researcher in the whole research process including data collection, analysis, and how to report findings in accordance with the research aims and questions. This study, as an interpretive piece of research, used a multiple case study design to explore the experiences and views of 12 female DHH students toward inclusion. In this section, an explanation of the design and procedures of this study are presented.

The process of data collection lasted for 14 weeks. The first week involved gathering the participants and explaining the aim of the study and other procedures, which were explained earlier in the previous section (participants).

Each week then focused on an individual student. The student was interviewed twice (at the beginning of the week and at the end of the week) and two unstructured observations were conducted for each student between the two interviews. Moreover, an initial analysis of the first interview and both observations was applied in order to prepare for the second interview and design an appropriate schedule. Figure 1 illustrates this process.

Case 1 week 1

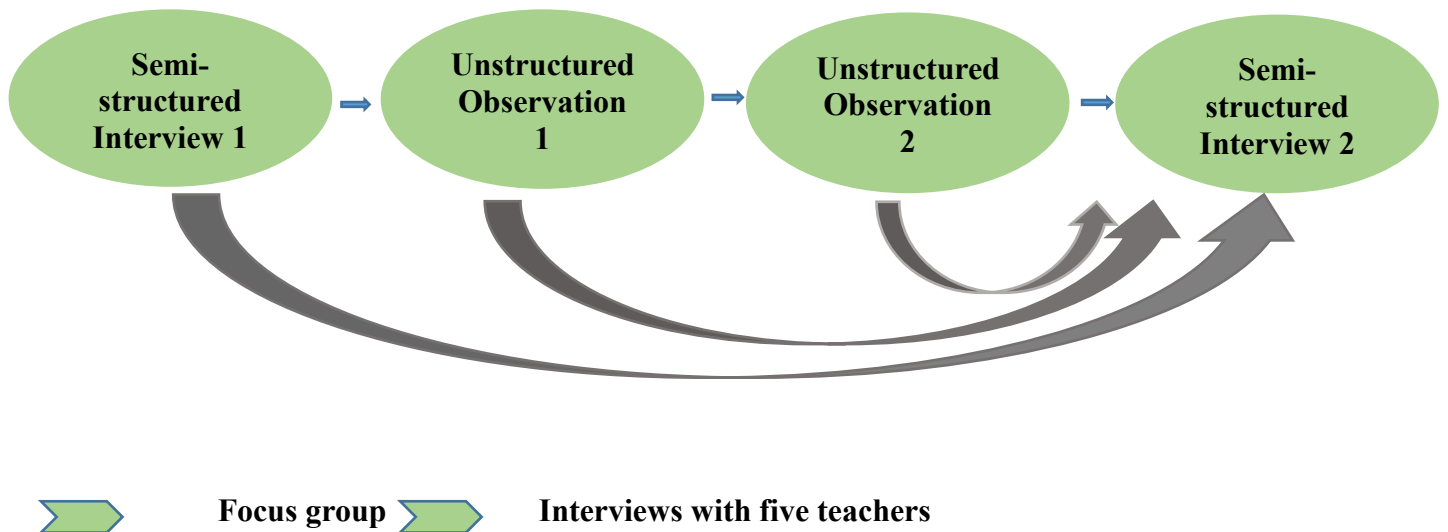


Figure 1: Research methods and procedures of data collection for each case

The same process was then used in the following week (Week 2) for Case 2 and so on for a total of 12 weeks. The order of the 12 student participants depended on their ability to meet me. Once all the students were interviewed and observed, the classroom teachers (2) and special education teachers (3) were interviewed. Each was interviewed only once and the interview focused on the student participants who were in their classes. It was considered appropriate to only hold one overall interview with these teachers rather than an interview each week to correspond with the student case week due to the lack of time and the heavy workload of most secondary school teachers. For example, if there were three participants in one classroom, the general teacher and special teachers of these participants were interviewed about all three participants in one interview. The focus groups were held at the end of all the interviews and observations with students with DHH in Week 14.

In the sections below, the procedures for Week 1, Week 2, and Week 14 are explained. These weeks are explained in more detail because the procedures followed during these three weeks were different than the other weeks of data collection. Apart from these three weeks, the procedures of data collection were the same for weeks 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13.

Week one

During the first week and before collecting data I gathered the basic information about all students with DHH from the school administration, such as the age of the participant (their date of birth), their year group, medical conditions or other disabilities. After that, I excluded two participants from the cases because of their additional disabilities. Then, as indicated earlier in this chapter, all students with DHH in the school (without additional disabilities) were gathered together in order to explain the aim of the research.

Week two

In the second week, the Case 1 student was interviewed twice, at the beginning of the week and at the end of the same week. The first interview with a participant usually took about 20–25 minutes and the second interview about 10–20 minutes. All interviews were conducted in the prayer room in the school because it is a quiet and empty space during most of the school day. Two unstructured observations were conducted for the student between the two interviews. Each observation was conducted in two different sessions (with two different subjects) and lasted about 45 minutes each. The chosen sessions were observed after an agreement between myself and the teachers of the sessions who gave me their permission to attend their lesson. The sessions were: Arabic, religion, English, history, research skills and computer science.

In the week after, I used the same procedures with the second student and then the third students until the final student in Week 13. The order of the students depended on their ability to meet me.

Week fourteen

During the final data collection week, Week 14, I conducted two focus groups, the first of which was with four cases: two from Year 3 (Abeer and Fateen) and two from Year 2 (Sara and Rem). The second focus group was conducted with six cases: two from Year 2 (Maram and Hatan) and four from Year 1 (Lama, Roaa, Fager and Munera). Two participants (Rawiah and Arwa from Year 3) did not agree to participate in the focus group. In addition, the two mainstream teacher participants who taught Year 1 and 2 were interviewed about all the cases in these years. In addition, three special teachers who taught Year 1, 2 and 3 were interviewed about all the cases in these year levels. During the interview, the teachers were asked about all the cases that they knew, which means that certain teachers were asked about the same cases twice. Interviews and focus groups were also conducted in the prayer room.

4.8 Data analysis

This section explains in detail the general steps by which I analysed the data collected through this research (29 semi-structured interviews, including 24 with students and five with teachers, 24 unstructured observations for students, and two focus groups with students). I explain how I combined and compared the findings from the different sources.

First, the data analysis was carried out in two main stages. As discussed earlier, every week, each student was interviewed twice, once at the beginning of the week and once at the end of the week. Two unstructured observations

were also conducted for each student between the two interviews. Therefore, after the first interview and the two observations with students, an initial analysis was carried out in order to identify emerging themes and to compare what was happening in the lessons to the participant's responses in the first interview. This first stage enabled a general understanding of the data and involved reading the interview transcripts and observation notes and writing down any impressions about the data (see Appendix 6). The transcription was in Arabic. This stage allowed me to conduct the second interview and ask participants different questions as new themes emerged, and ask them to explain the changes observed during the lessons. In addition, the first interview also allowed me to focus on important actions during the first and second unstructured observations. This also helped me prepare questions for the teachers about the participant's actions to link the results at the end of data collection. This step was repeated each week with each case.

Once all the interviews with the students and teachers, observations and focus groups had been conducted, I could start the second stage, which was the analysis of all data. In this second stage, six main steps were performed. Firstly, all data were recorded (all interviews and focus groups) and transcribed. In total, 29 interviews and two focus groups were transcribed and 24 observations were typed, which took a considerable amount of time. However, this procedure offered opportunities to familiarise myself with the data and gain a deeper understanding of it. I tried to transcribe the actual words that the respondents used in the interviews without summarising them to avoid losing the meaning and clarity, and paraphrasing was avoided on the same basis – this is called verbatim transcription.

The data were collected and transcribed in Arabic to avoid losing the meaning through translation into English. Two students' interviews, one teacher interview, and one observation were translated into English for the purposes of supervisory support.

Secondly, I read the transcripts many times in order to understand the data fully. Then I wrote down any initial impressions that came to mind about the data in the form of notes. The third step was to import and organise the data by using MAX Qualitative Data Analysis (MAXQDA) software. I imported the data transcripts for the students and teachers and organised them by cases and teachers. This was carried out by organising the interview and observation data regarding the 12 cases with the data for each case in a separate file. Hence, each case had her own two interviews and observations in one file. This helped me to easily find the relevant data for each case. The teacher interviews also had their own files in addition to the two focus group files (see Appendix 7). This software provides a variety of benefits. It provides an easy system of coding by me as a researcher and, therefore, an easy way to reaching these codes. I mainly used this software to arrange the data and access the codes quickly without using any of its additional features. The other reason for using this software was because it supported the Arabic language, unlike other software such as NVIVO.

The fourth step involved starting to code the data. The coding process in this research followed Hahn (2011) recommendations involving several process. First of all, I started with first level coding (initial coding). I read the data carefully, which was in Arabic, identified all data statements relating to my research questions and assigned a code to each of them. After that, the codes were noted in English and each related statement was organised under the appropriate code

– these were shared with and discussed with my supervisor. The names of some codes were then changed and additional codes were included.

The second level of coding (focused coding), involved using the same codes developed in stage one (level one coding), rereading the data and searching for statements that may fit into any of the existing codes. At this stage, additional codes were also developed until the number of codes stood at about 120. After that, the code names were written on small pieces of paper and laid on a table to have an overview of them. Then I looked at these codes and noticed that some codes were related to others and that several codes could be grouped under one general code (third-level coding). This reduced the number of codes and facilitated their organisation. At this stage, I again looked at the codes and tried to organise them by clustering them into common themes so that similar codes were grouped into first-order themes (Biddle, Markland, Gilbourne, Chatzisarantis and Sparkes, 2001). The organisation of the codes and themes was repeated several times and the name of some themes were also improved through analysing the data.

The fifth step of the data analysis process was to interpret the data, which meant giving meaning to the findings. This was a challenging process which took time because each case had four types of data (two semi-structured interviews, one focus group, one or two interviews with teachers) and it was not easy to analyse these data and combine the results together. To achieve this, I listed the cases and focused on each case individually, with critical distance, thinking about what each participant was saying in these interviews and focus groups, and what the teachers said about each case. In addition I had to bear in mind the observation data. I started by looking at the themes and their codes from all the data, thinking about them, interpreting the data and writing up the results for each

theme and for each case. Therefore, the findings were organised by case and by corresponding theme.

When I wrote up the findings for each individual case, I started the sixth and final step by standing back and thinking again about what the main themes revealed for all cases (cross cases analysis). This helped me and the reader, to understand the whole findings of the research and highlight cross cases similarities and differences. Therefore, the findings chapter was divided into two parts: (1) the results of the individual cases analysed following the themes that emerged from all the data related to each case and (2) a cross cases analysis to examine common themes.

As indicated earlier, the codes were written in English but the transcripts were in Arabic; therefore, I translated the evidence of the recurring themes by quoting responses from the interviews, focus groups and observation notes through analysis to English in order to have clear references. The translation was done by myself and then some of them were checked by an Arabic friend who is a doctoral student in teaching English to speakers of other languages (TESOL). The interpretation of some part of the findings was also checked by her to make sure that there was no bias.

It is also worth explaining here the way of writing and developing the themes and their titles in this stage. The first interview schedule was based on initial themes chosen in this research to achieve the aims, such as the educational background, school experiences (feelings, emotions, general comments, reflections), relationships (with teachers, peers), participation in learning and school activities, exams and support. The second interview schedule was based on a number of themes and questions that emerged from the initial analysis from the first interview and the two conducted observations. However, these themes

emerged from some participants' interviews; observations and teachers' interviews and did not necessarily emerge from all of the participants' data. For example, some themes emerged in some cases but not all of them. The focus groups, however, did not generate new themes to be used in this research.

These emergent themes were: 'students' personality', 'feeling of belonging in the mainstream school', 'difficulties in the mainstream schools' and 'attitude toward the deaf institute and sign language'. In addition, one theme emerged from one student's data, namely, 'cochlear implant'. During the writing-up stage, several theme names were developed. In addition, several themes emerged in one case only and not in all of the cases. Table 6 illustrates the thematic structure of the data analysis.

Initial themes	Themes for the individual cases	Themes in the cross cases findings (in order)
Educational background	Prior education Students' characteristic	Prior education
School experiences	Feelings of belonging in the Al Kauthar mainstream secondary school	Feelings of belonging to the Al Kauthar mainstream secondary school
	Attitude toward the deaf institute and sign language	Attitude toward speech versus sign language and the deaf institute
Relationships	Social interaction and relationship with peers	Social interaction and relationships with peers
	Relationship with teachers Relationship with others	Relationships with teachers and others
Participation in learning and school activities	Participation in learning and school activities	Participation in learning and school activities
Exams	Exams	Exams and curriculum
Support	Support	Support
	Difficulties and barriers in the mainstream schools	Difficulties and barriers in the mainstream schools
	Speech	

Table 6: the development of themes

4.9 Trustworthiness

Trustworthiness in qualitative design simply poses the question 'Can the findings be trusted?' (Lincoln and Guba, 1985). The trustworthiness of interpretive research is often questioned by positivist researchers, possibly due to their focus on validity and reliability that cannot be addressed in the same way in interpretive research.

However, several social-constructivist and interpretivist educational researchers have demonstrated how qualitative research can incorporate measures that deal with and respond to these issues in their own qualitative studies. They do, however, prefer to use a different terminology to distance themselves from the positivist perspective. One of these authors is Guba (1981) who proposed four criteria that should be considered by qualitative researchers in pursuit of a trustworthy study: credibility, transferability, dependability and confirmability. These criteria are discussed in detail below in relation to this study.

4.9.1 Credibility

Guba (1981) defined credibility as ‘How can one establish confidence in the “truth” of the findings of a particular inquiry for the subjects (respondents) with which and the context in which the inquiry was carried out?’ (p. 79). Credibility is one of most significant criterion in establishing trustworthiness in qualitative research (Lincoln and Guba, 1985). A number of provisions have been made by researchers to promote confidence to record the phenomena under scrutiny (Shenton, 2004). One of these ways is the adoption of well-established research methods. As mentioned earlier, I used three different qualitative methods to collect data: semi-structured interviews, unstructured observations and focus groups.

First, I followed several steps to improve the credibility of these methods. For example, I did not start designing the interviews and conducting them before I had immersed myself in the relevant literature about these research methods, in addition to reviewing the literature about the experiences of students with DHH, which helped me ask appropriate questions and observe students in a deeper

way. Secondly, as indicated earlier, I adapted the interview process to the needs of the students with DHH by making it deaf-friendly.

Additionally, as mentioned earlier, I asked another doctoral student to volunteer for an interview trial to find out about any issues that might need to be corrected or improved. The interview schedule was also discussed with my supervisor which led to the removal of one particular question ('Did you ever feel marginalised?') as a leading question.

The piloting of the semi-structured interview was not possible for the reason of the limited number of students with DHH in the school; however, I have previous experience of interviewing students with DHH as part of my Master's degree. The piloting of the observation took place in the same school by attending one session in one of the classes that includes students with DHH. I chose one of the students with DHH in the class (not a participant after her permission) and started taking the unstructured observation. From this experience, I learned how to focus on the most important reactions of the students and this gave me a wider view of the session's situations. In addition, I learned how to write and organise observation notes while observing the class. In addition, after the first observation, I sent the observation notes to my supervisor who gave me positive feedback about them, but suggested that I be clear about what the students said and did and what I wrote down. All of these learned skills helped to enhance the credibility of the data.

As far as credibility is concerned, researchers should develop an early familiarity with the culture of the participants. For that reason, I spent two weeks in the school before collecting the data in order to develop a good relationship with the participants. This good rapport encouraged the participants to talk about their beliefs and express their feelings in the interviews. However, in qualitative

studies, in terms of ethics these relationships need to be considered, as discussed in the ethical considerations section of this chapter. During these two weeks, I also attended some sessions to observe these students without taking any notes so they could get used to my presence and could therefore behave naturally.

Another provision of credibility is triangulation, which is the involvement of different methods of data collection. Three methods were used in this research to exploit their respective benefits and minimise their limitations (Brewer and Hunter, 1989; Guba, 1981). In this research, each method supported the data obtained from the other method. For example, the observations and focus groups explained and supported the interview data about the experiences, views and attitudes of and other details about the participants. In addition, the observation as a method generated data that could not be obtained otherwise, such as the participation in the lessons and the interaction with or the acceptance by peers. I told each participant after the first interview that I would be with her in the class to have a general observation without mentioning directly what I will be observing – for example, social and academic behaviour, which could have led to unnatural behaviour in the classroom. The focus groups also encouraged the participants to discuss some matters between each other, which could support the research.

Another form of triangulation is the use of multiple data sources (participants). Therefore, the interviews with teachers were conducted to gather their individual views and experiences about students, which could provide a richer picture of the student participant's experiences, attitudes, or behaviour. It might also provide data that could conflict with other data.

As indicated earlier, my background, qualifications and experiences inform my credibility as a researcher, which is important in qualitative research.

According to Patton (1990), this is because the researcher is the major instrument of data collection and analysis. As a researcher I have two qualifications relating to DHH (Bachelor's and Master's Degree). In addition, I have five years of experience in teaching students with DHH, including three years in a fully inclusive, mainstream primary school and two years in a special school for the deaf.

In the special school for the deaf I taught at the primary, intermediate and secondary levels. This gave me significant experience with students with DHH in addition to a good relationship with them. I also conducted research in my Master's degree in a primary mainstream school among students with DHH. This school was in the same city where this current research was conducted. Therefore, I have already taught some of these participants in their primary school and have a previous good relationship with them. However, some researchers believe that the previous experience of the researcher could cause bias in the findings' interpretation. Several steps, however, were taken in this research to avoid bias, as discussed later in this chapter.

4.9.2 Transferability

Transferability, in preference to 'external validity' or 'generalisability', is attained, according to Lincoln and Guba (1985), 'by describing a phenomenon in sufficient detail, one can begin to evaluate the extent to which the conclusions drawn are transferable to other times, settings, situations, and people' (p. 306). The results are illustrated with quotations from the semi-structured interview transcripts and focus groups to make sure that the reader has access to part of the original data and to justify the proposed interpretation of data. Nonetheless,

interpretive research does not aim to generalise findings but rather seeks to offer new perspectives that are unique and contextually based (Elshabrawy, 2010).

4.9.3 Dependability

Sandelowski and Streubert state that dependability refers to the reliability and consistency of the research results and the ability to other researchers to follow, audit and critique the research process via the research documents (Sandelowski, 1986; Streubert, 2007).

Lincoln and Guba (1985) stressed the close ties between dependability and credibility, arguing that in practice a demonstration of the dependability goes some distance in ensuring the latter. Dependability, according to Shenton (2004), may be achieved by using different methods, such as individual interviews and focus groups, which is the case in this research. The other way of achieving dependability is to address the study in more detail to enable future researchers to repeat the work. This was equipped in this research by describing the research design and its implementation including the procedures in substantial detail.

4.9.4 Confirmability

Confirmability is about ensuring that findings and conclusions are supported by the data and that there is internal convenience between the actual evidence and researcher's interpretation (Brink, 1991). It also ensures that the research process and findings are free from the researcher's personal bias (Johnson and Rasulova, 2017). As indicated before, I have experience in teaching some cases in their primary school, which may cause an earlier judgement on the participant and affect my interpretations. However, in order to avoid the effect of researcher bias and separate myself from the data, I followed two steps. Firstly, multiple data collection methods and sources were used in this research, as indicated earlier;

and secondly, I reviewed the findings with a colleague and both supervisors to check for alternative explanations.

4.10 Ethical Considerations

According to the NDA (2009), research that includes students with disabilities, needs attention in uncovering the issues that are, in evaluation of programmes, in informing policy, and in tracking how social and in economic change affects students with disabilities.

This research included students with DHH, and an investigation of their experiences and a relationship between the participants and myself as a researcher was developed over the research period (Marvasti, 2004). Social researchers are responsible for considering the ethical issues with regard to the nature of this relationship, or what must or must not be done with people who are interviewed or observed and written about (Marvasti, 2004). For that reason, basic principles were taken into account in this research to ensure that this study was ethically conducted with students with DHH. This is partially because a lack of language fluency may generate many ethical dilemmas and barriers for researchers who work with this group (McKee, Schlehofer and Thew, 2013).

4.10.1 Ethical issues with DHH

The principles of ethical conduct in studies on people with DHH are no different from the principles of ethical conduct for research on any population. However the execution and achievement of appropriate ethical research practices with people with DHH may require specific awareness and adaptations to usual practice. According to Young and Hunt (2011), understanding deafness is complicated and it is very important to think about the methodology and research methods in conducting studies with people with DHH. Young and Hunt

(2011) added that in research involving people with DHH it is often important to find out about how individuals with DHH communicate and what their preferred means of communication is. 'Given the diversity of what it is to be deaf, ensuring that data collection matches preferences in language and communication is vital for quality research in this field' (p. 7). Young and Hunt also indicated that in research studies that involve qualitative data collection in individual, such as interviews or focus groups, making the research process accessible is a central concern.

Therefore, in this study which used semi-structured interviews and focus groups, as a researcher and interviewer I was concerned about the preferred mode of communication in order to consider the best way to interview the participants. In this study, most of the participants preferred oral speech in both interviews and focus groups; however, some of them preferred to talk and sign at the same time. According to Young and Hunt (2011), in situations of data collection with people with DHH where the researcher does not sign or does not sign well enough, it is common practice to use an interpreter. However, I did not need an interpreter in the data collection process due to my familiarity with sign language having previously taught for students with DHH and sign language users. Therefore, I used both communication methods in all of the interviews and focus groups.

Furthermore, the participants in this study were all hearing aid users as well as lip-readers. For that reason, I ensured that the physical environment in which the data are collected was suitable. For example, I avoided reverberating locations and paid attention to the lighting in the room in which the interviews and focus groups were conducted. For example, I avoided situations where the light was dim or where the light was behind me as the interviewer, both of which would

make lip-reading more difficult (Young and Hunt, 2011). In addition, in the focus groups I made sure that everyone was able to see everyone else clearly so that they could follow conversations.

Additionally, interviews in particular require the development of a good relationship between interviewer and interviewee (Young and Hunt, 2011). A good relationship will allow a good interviewer to use their awareness of sub-texts ('what is hinted but not expressed') and the skills of dynamic listening to help manage the interview and what is covered.

In this regard, as indicated earlier in this chapter, I spent two weeks in the school before collecting the data in order to develop a good relationship with the participants, which I hope helped me to more deeply understand my participants.

4.10.2 Participants' awareness and permission

In order to start collecting data, an ethical application was approved by the College of Social Science and International Studies in which I committed to upholding their ethical standards (see Appendix 8). This application included details of all the data collection methods used in this study as well as the procedures followed and considerations taken in order to conduct the study. The data was collected in Saudi Arabia. For that reason, as indicated earlier, I contacted the Research Centre in the Ministry of Education to obtain their permission and that required the following of a lengthy procedure to obtain permission from the education authorities in the city in which the researcher wished to conduct the study. I contacted them several times by telephone and email and sent the required documents and information, such as the name of the school, the instruments of data collection and the proposed procedures (see Appendix 9). In Saudi Arabia, this permission gave me the right to collect data

with or without the permission of the school. However, I chose to contact the head teacher of the school to seek her permission and she was welcoming. In addition, permission was sought from the participants, their parents, and participating teachers as previously described. Capron (1989) indicated that any research should be guided by the principles of respect for people and that respect is recognition of each participant's rights. This includes their right to be informed about the aim of the study and procedures, their right to decide whether to participate in the study or not, and their right to withdraw at any time during or after the data collection period.

This consent requires that participants have obtained sufficient information to be able to make their decision to be a participant in the study: that is, these participants understand the information provided and are therefore able to make a voluntary decision (BERA, 2018).

A lack of linguistic proficiency, according to McKee et al. (2013), can make informed consent processes and research material inaccessible to students with DHH; therefore, there is a high risk of poor research engagement. However, many of the concerns previously discussed regarding access and preferred mode of communication are highly pertinent to informed consent for students with DHH. Language and communication are key to ensuring maximum understanding, and consequently, optimal conditions in which to arrive at a decision about study participation. For that reason, it is important to plan accessible material that is suitable for these students. According to Young and Hunt (2011), good practice in this respect includes, for instance, checking of understanding and consent through a conversational face-to-face process, which enables the exploration of the information materials that might have been received. Thus, the information sheet and consent form (Appendix 4) for the students was written in easy and

clear language. In order to make sure the students fully understood it, I met with the students beforehand and explained the aim of the research and procedures in details. They were thus informed about the aims of the research, the methods and the procedures verbally and in writing.

In addition, as previously described, a similar consent form was sent to the parents of these participants to seek their permission and signatures (see Appendix 5). This is because there is always a concern that arises for researchers when conducting research with students with DHH, namely should the student or the parent make the decision to participate in the research?

The contribution of rehabilitation specialists, medical personnel, educators and members of the DHH community often 'inform' the decisions that parents make on behalf of their children (Beattie, 2002). However, I chose to obtain both the parents' and their children's permission to participate in this study because I believe that students with DHH who participated in this study should make the decision to participate in the research in addition to their parents. They were also informed that by not returning the consent form, I would assume that they agreed to their children's participation in the study, unless they formally disagreed.

4.10.3 Confidentiality and anonymity of research participants

This principle is concerned with offering respect and protection to research participants by ensuring the confidentiality of information shared by the participants, and anonymity by hiding the identity of the participants and school involved. All hard copy documents (observation notes and transcripts) were stored in a locked drawer and will be destroyed after completing the PhD. Audio recordings and other data files were securely stored on my password-protected laptop and were not available to anyone else other than my supervisors. The data

were gathered and analysed specifically for the purposes of this research. All data reported are anonymised – the school, individual students or teachers are not named and every effort has been made to ensure that people cannot be identified. In addition, the recording voices in the recorder and transferred to the computer will be deleted immediately upon finishing my PhD.

4.10.4 No Harm to participants, beneficence and reciprocity

The DHH community in any country is likely to be a cultural minority, so that researchers are often retesting or over-testing children and adults with DHH, potentially putting them at risk.

This was taken into account during the data collection to make sure that no harm, detriment or unreasonable stress was caused to the participants. The data were about students' experiences, views and attitudes so they were very comfortable talking with me and, as a previous teacher of students with DHH, I knew how to communicate with them. All the data collection process was carried out fluently and in a respectful way; so no distress was caused during this process.

4.10.5 Issues during the data collection

Two issues were raised during the data collection procedures and were taken into consideration to ensure the research was conducted in an ethical manner. One of the issues was to set a convenient time for the participants' interviews. According to Cohen et al. (2018), there is an ethical issue when researchers withdraw participants from a lesson and spend a long time interviewing them, as this can lead to missed lessons. The students with DHH spend all day at school with their hearing peers in the general classroom and the special education teachers withdraw them from their classes in certain necessary

situations. For that reason, I found it difficult to withdraw the participants and interrupt the participants and their teachers in some sessions. Therefore, I collected the timetables of all the classes and discussed with their teachers the most suitable time to withdraw the students – for example, at the end of the session when teachers finished their teaching earlier so I could interview the student. The interviews also did not take more than 25 minutes. In addition, I made sure that my interview questions did not include leading questions or bias that might affect the student's answers.

The second issue was in attending some teachers' sessions (who are not participants of the study) to observe my participants. It was difficult to obtain their permission to attend their lesson.

This might be because they thought that I would be criticising them as teachers rather than observing the student. However, to avoid this issue, I told the teachers truthfully that I was here only to observe one particular student within the whole lesson process, which might include the teacher and peers, although this was done without mentioning any of the teacher's or students' names in my observation notes.

4.10.6 The role of researcher

I was aware of my position as a researcher in this research, and the interactions between myself and the participants. As stated previously, my background, qualifications, and experiences as a teacher of students with DHH in Saudi Arabia has made me familiar with the culture and context of the participants. This being so, I was aware of possible issues that could arise, given that I have worked as a teacher, which may lead to bias in the data, in that I accept responses from participants that simply conform to what I want to hear,

rather than based on their own beliefs and opinions. To combat this possibility, I strove not to ask leading questions, and instead articulated open questions designed to give rise to in-depth data and information about the issues being researched. I have been determined to listen to participants' perspectives and beliefs in this study, and not simply express or confirm my own perspective. It must be accepted that in a qualitative study, it is impossible for the researcher to entirely prevent their values from intruding because the researcher plays a key role in the various research stages and the subsequent analysis of the data (Bryman, 2008); nevertheless, I have been committed to ensuring that the findings constitute a correct reflection of participants' perspectives. To do so, two steps were followed. Firstly, multiple data collection methods and sources were employed in this research, through which I came to understand the participants in this study (Creswell, 2014), and secondly, I reviewed the findings with a colleague and both my academic supervisors to check for alternative explanations.

4.11 Conclusion

This chapter has outlined the methodology of this research including its philosophical assumptions, methodological approach, data collection and analysis methods, design and procedures. The next chapter presents the research findings.

Chapter Five: Findings

5.1 Introduction

This chapter reports the findings of the research, which consists of interviews with and observations of 12 Saudi students with DHH, along with their teachers. As explained in Chapter Four, ten salient themes emerged from the various data sources. These latter took the form of two semi-structured interviews with and unstructured observations of each student; an interview with two general and three specialist DHH teachers; and a conversation with all students in two focus groups. The ten themes were: characteristics of the participants; attitudes to deaf institute and the use of sign language; feelings of belonging in mainstream secondary schools; DHH students' social interactions and relationships with their hearing peers; relationships with others; participation in the classroom and school activities; the difficulties and barriers experienced at the Al Kauthar mainstream secondary school; speech issues; exams; and support. Some themes are evident in only some of the cases examined in this paper, and are therefore presented only in these cases.

It is worth noting that in this chapter, the term 'general school' has a different meaning to that of 'mainstream school,' as discussed in Chapter Two. The chief difference between these two systems is that general schools in Saudi Arabia do not include students with hearing impairments, visual impairments, or intellectual disorders, but they do accept students with learning disabilities. However, general schools do not offer any specialist education teachers, and therefore no support is available for students with SEN. On the other hand, mainstream schools – or 'integrated schools,' as they are called in Saudi Arabia

– do include such students, and also employ teachers specialised in teaching students with these disabilities, such as those with have a bachelor’s degree in SEN.

The first part of the chapter will present overall participant demographic information, after which it will examine the findings obtained for each student. This will initially be done based on demographics, and then according to the relevant themes. In the second part of the chapter, a cross-case analysis will be performed to draw together the key findings from all cases under each theme. Some themes in the cross-case analysis part were modified based on a broader picture of the findings, such as attitudes towards speech versus sign language and the deaf institute, exams, and curricula.

5.2 Overall participant demographic information

This paper has examined 12 secondary school students with DHH: three participants from year three, five from year two, and four from year one.

Case number	Name of participant (pseudonym)	Age in years	School year
1	Abeer	20	3
2	Faten	18	3
3	Rawia	18	3
4	Sara	16	2
5	Arwa	17	2
6	Rem	17	2
7	Maram	21	2
8	Hatan	17	2
9	Lama	16	1
10	Roaa	16	1
11	Fager	16	1
12	Munera	16	1

Table 7: Overall participant demographic information

All participants have been diagnosed with a mild-to-moderate hearing impairment in both ears, except for Maram, who has a moderate hearing impairment in one ear, with normal hearing in the other.

Cochlear implant: Faten is the only student who has had cochlear surgery. She has had the surgery twice: the first took place when she was a child, which was not successful, while the second operation was successful, and took place during her second year at the Al Kauthar secondary school. Cochlear implantation is a popular surgery option for children with severe-to-profound hearing loss (AlSanosi & Hassan, 2014), which could explain why few of the students featured in this paper have undergone this treatment, given that most of them only have mild-to-moderate hearing loss. Faten has stated that the surgery improved her listening and speech capabilities.

5.3 Part one: The student cases

CASE 1 (Abeer)

Demographic information

Abeer is a 20-year-old female student in the third year at the Al Kauthar secondary school. She obtained an overall score of 90.43% in year two, which is an impressive figure result in the Saudi education system (see Table 2 in Chapter Two). She has been diagnosed with a mild-to-moderate hearing impairment, and wears a hearing aid. During the interviews, Abeer's speech was clear, and she did not resort to using sign language.

Abeer's character

Amal, a specialist teacher, reported that Abeer is a clever and independent student, and that her mild hearing loss and good speech abilities may have affected her in a positive way. According to Amal, Abeer does not think of herself as a DHH student; she always sits with normal-hearing students, and sometimes rejects specialist teacher support. When I asked Amal if Abeer refused to be considered a DHH student, she said that she did not believe so, but that she rather saw Abeer as a confident student with a likeable character:

'I don't know what I would call that; maybe confidence. She has always been confident, and has an impressive character. She is able to function well in the general classroom, which is good. Sometimes, I do not summarise the curriculum, and Abeer has never complained; she does not have a problem with that approach'. (Amal, Interview)

Prior education

Abeer started her education aged six in a general school, and has never attended a specialist DHH school (deaf institute), and therefore cannot compare the two settings. As a result of having completed her education in a general (rather than mainstream) primary school, without any specialist support, Abeer had to repeat years two and four in primary school, which explains why she is older than her peers. According to Abeer: 'I failed in years two and four in primary school because my speech was poor at the time. My school did not have any specialist teachers' (Abeer, Interview 1). When she was asked about her background with the deaf institute, she stated her belief that the different degree of hearing loss between students is the main reason they are placed in different settings. She also believes that she would have difficulty understanding the other students, were she to attend lessons at a deaf institute (Abeer's speech is clear, and she does not use sign language at school). In her own words:

'I think that specialist schools are for deaf students who do not hear perfectly and do not speak at all, but here in my mainstream school, most [DHH] students have only mild hearing loss. I can't compare between the settings because I have never studied in a specialist school. I don't understand students in specialist school easily; I am not accustomed to them'. (Abeer, Interview 1)

Feelings of belonging at Al Kauthar

Abeer expressed that she has always felt happy at school, not just at Al Kauthar, but also when in primary and intermediate schools. She also pointed out

that her experiences in the mainstream setting have helped her to speak like her normal-hearing peers, to speak as she wants:

'I am happy here, and have learnt to speak like other people. Furthermore, by studying with students who can hear, I have learnt to speak like they do. I feel that I understand them very well... I am a part of the classroom'. (Abeer, Interview 1)

Social interaction and relationships with peers

Abeer says that she has many friends who are able to hear, with whom she has been friends since intermediate school. She also reports that she has a friendly nature and likes to meet other people and make new friends, even if they are from outside of school and older than her. Abeer enjoys it when hearing students come to her with their problems, believing that this displays the strength of their friendship. In addition, Abeer says that she has a good relationship with her DHH peers and that she supports them when needed, but that her relationships with hearing students are stronger because she is used to being with them. She also explained her reasons this lower level of engagement with her DHH peers:

'I have been sitting with my hearing peers since primary school. I feel that I don't understand hard of hearing students because they speak without using their voice, but this does not mean that I did not like sitting with them. I help them when they ask for aid'. (Abeer, Interview 1)

The nature of Abeer's relationships with her hearing peers became evident during the first observation. The students were talking to each other and smiling about their homework, and Abeer was listening. I observed that she enjoyed a good relationship with her group because she frequently spoke with them. In addition,

one of the students with normal hearing specifically asked her about the classroom timetable (Abeer, Observation 2).

Relationships with teachers

When Abeer was asked about her relationships with her teachers, she focused on a specific issue she had with one general teacher:

‘One time, I had a problem with one teacher. I always used to raise my hand in her classes to answer questions, but she told me that she did not want me to participate in her classroom. I did not say anything then, but went later to my specialist teacher to tell her about the problem. This issue affected me; I don’t like to have problems with teachers’.
(Abeer, Interview 1).

This indicates that Abeer saw the specialist teacher as an ally to whom she could go when she had problems, as well as the fact that she is someone who prefers to avoid problems and maintain good relationships with both her general and specialist teachers.

Participation in learning and school activities

Abeer stated that she usually participates in the classroom activities assigned by her general teachers. Amal, the specialist teacher, said in her interview that Abeer is fully included in her classroom and the wider school. In some subjects such as English, however, she has experienced difficulties:

‘They ask me to participate in the classroom, but I have difficulties with the English language. For example, the teachers can ask some difficult questions in English, so I try to avoid answering them’. (Abeer, Interview 1)

In the first focus group, Abeer explained why she did not participate in some subjects:

'There are some teachers who do not give very good explanations, which reduces our ability to participate. The teachers say that we do not participate in their sessions, but actually they do not explain the issues in complete detail'. (Abeer, Focus Group 1)

Abeer did, however, praise her teachers who encourage students to participate, and who explain the importance of participating in lessons. In her own words:

'I like the teachers who try to simplify lessons and encourage us to participate. That's what our teacher did last year. I don't know, but I feel that some teachers don't care whether or not we understand'. (Abeer, Interview 1)

Difficulties and barriers in the Al Kauthar mainstream school

When Abeer was asked whether she had experienced any difficulties or barriers at school, she mentioned that she was occasionally ridiculed by her peers when she made mistakes in her speech:

'I make some mistakes in my speech and when I do, that the other students sometimes laugh at me. I don't know why, this has been a problem since I was a child. I just ignore it. However, I only have problems with some letters'. (Abeer, Interview 1)

In addition, Abeer stated that she has difficulty with two academic subjects. The first is the Hadith – a collection of remarks by the Prophet Mohammed (peace be upon him) – with which she has struggled with since intermediate school. The

second is English; she avoids participating in English lessons because she feels that she is unable to express herself.

Exams

Abeer reported that she had not experienced any difficulties with exams in her mainstream secondary school, with the exception of Hadith and English subjects. According to Abeer, she is not granted any additional time in her exams, but she does sometimes receive extra support from her specialist teachers. (Abeer, Interview 1)

Support

Abeer states that her hearing peers support her the most when she needs help, which was very evident in the classroom observations. On one occasion, Abeer borrowed a notebook from one of her fellow students to read from it, while another example of this support came when Abeer asked one her group a question, and a group member obligingly offered assistance (Abeer, Observation 2).

When asked about any additional educational support she received in mainstream school such as via specialist teachers, general teachers, individual education plans, and the resource room, Abeer said that she had received tremendous support, but that she did not need it all the time. In her interview, Amal remarked that 'when we teach DHH students in the resource room, Abeer typically says, "I do not need this support; I'll come to you if I need it".' (Special teacher Amal, Interview).

Abeer said that her specialist teachers supported her by summarising the curriculum and helping her whenever she required support. The researcher

observed an example of the support Abeer receives from her general teachers when she was following her group when underlining some text, and her teacher checked to see whether she had done it correctly, confirming vocally that she had (Abeer, Observation 1).

CASE 2 (Fateen)

Demographic information

Fateen is an 18-year-old female student in year three at the Al Kauthar secondary school. She obtained an overall score of 97.76% in year two, which is a very high percentage in the Saudi education system. She has been diagnosed with a moderate hearing impairment, and wears a hearing aid. She has had cochlear surgery twice. The first was when she was a child, but it was not successful, and her second came during her second year at secondary school, and was successful.

Fateen's character

Speaking about Fateen, Amal said: 'I think that she is a perfect student. She is both polite and a leader among her peers, deciding when her group needs to ask the teacher.' (Special teacher Amal, Interview).

Prior education

Fateen stated that she began her education in a general primary school when she was seven, and has never attended a specialist DHH school. When she finished primary school aged 12, she began attending a mainstream intermediate school, and then the Al Kauthar mainstream secondary school at the age of 16.

Attitude toward the Deaf institute and sign language

According to Fateen, 'My mother did not like the idea of my attending a deaf institute because they always use sign language' (Fateen, Interview 1). When asked what she knows about deaf institutes, Fateen responded: 'I know that they only use sign language there, and I only know the letter signs' (Fateen, Interview 1). Fateen's speech during the interviews was clear, and she did not resort to using sign language.

Feelings in the Al Kauthar

The researcher asked Fateen about her feelings about attending Al Kauthar school, to which she responded that she was happy there. She also indicated, however, that her grades had fallen at Secondary school, and that when at intermediate school, her grades had been much higher (Fateen, Interview 1).

Social interactions and relationships with peers

Fateen also said that she only interacts with her hearing peers in the classroom, while during breaks from lessons, she only interacts socially with her fellow students with DHH. This was evident on many occasions during the classroom observations. In one lesson, Fateen was seen asking a hearing peer about the next session, and understanding the response. Fateen communicated naturally, and seemed accustomed to contact with all her fellow students. An additional instance of a visible interaction came during a religious studies lesson. Fateen asked a hearing student about the correct page number, and received a response. Amal discussed Fateen's social experiences as follows:

'Fateen has fewer social interactions with hearing students than with [her DHH peers], but academically, she interacts well with them. For

example, she interacts with them to ask about the lessons and what her teachers say, but socially and outside the classroom, these interactions are limited'. (Special teacher Amal, Interview)

This corresponds with what Fateen said when discussed why she had so few interactions with her hearing peers:

'We are used to being together most of the time. Perhaps the general students are embarrassed to be with us, so prefer not to talk to us outside the classroom'. (Fateen, Interview 1).

She added that some hearing students are unkind, and that when she and her peers with DHH answer questions, the hearing students laugh at their poor speech.

Relationships with others

When asked about her relationship with her teachers, Fateen said that they were good. This was evident in one lesson the teacher observed; the general teacher came to the classroom group featuring students with DHH to offer support, and thank them for their answers (Fateen, Observation 1).

Participation in learning and school activities

Fateen was not seen to participate much during the classroom observations of her social and religious studies lessons; she only raised her hand once, and seemed not to want to participate. When the teacher asked the students for feedback, Fateen pretended to be writing in her notebook (Fateen, Observations 1 and 2).

Fateen said that she experiences difficulty participating in other classroom activities because she sometimes does not understand her teachers. In her own

words: 'Some teachers do not write on the board during lessons, but still ask me questions. I have to understand the lesson, if I am to participate' (Focus Group 1). She commented in that some teachers give clear lessons, and that those who do write on the board so that she can read and subsequently participate.

In addition, Fateen reported that her general teachers try to get her to participate in classroom activities, which she likes. I observed this in the social studies lesson, where the teacher asking questions and interacting with the DHH students: 'The teacher writes questions down, and Fateen then tries to answer them' (Fateen, Observation 1).

Difficulties and barriers at Al Kauthar

Fateen spoke about her academic difficulties as follows:

'I have problems understanding and participating in some sessions if the specialist teacher is not present in the classroom; this can be a problem.' (Fateen, Interview 1).

In two observations of Fateen, no specialist teacher was present, and the subsequent lack of participation was visible, which emphasised Fateen's opinion about the need for specialist teachers.

Asked whether she experienced other difficulties or barriers in the classroom, Fateen said that one problem was that her hearing peers sometimes ridiculed her and her DHH peers when they answered questions in class (Fateen, Interview 1).

Exams

Fateen stated that she has some difficulties during exams:

'In my final exam, I asked my teacher to summarise the textbook, but there was a question that was not from the summary, which reduced my overall grade'. (Fateen, Interview 1)

Fateen also suggested that her teachers write questions and answers from the curriculum on separate pieces of paper, which would make it easier to prepare for the exams.

Support

Fateen said that in some classroom situations, she did not hesitate to ask her hearing peers to help her: 'One of my hearing peers cooperates quickly and supports me when I ask her, for example, if there is any homework, or what the teacher said.' (Fateen, Interview 1). This was evident in some of the classroom observations; for example, in the religious studies lesson, Fateen asked a peer for the correct page number.

When asked about the support she received from her general teachers, Fateen discussed about the fact that there were no specialist teachers at her primary school: 'When the teacher discussed some sentences in the textbook out loud, I could not hear and there was no specialist teacher present, so the general teacher asked me to bring my textbook so she could underline the appropriate sentences' (Fateen, Interview 1).

The support offered by general teachers at Al Kauthar could be seen during the classroom observations. For example, the teacher come to the DHH group to write down a question and encourage the DHH students to participate.

Fateen also mentioned the support that she received from her specialist teachers. She repeatedly indicated that she did not understand lessons without the support of a specialist teacher, and when asked about the additional support

she received at Al Kauthar, Fateen responded that if students experience difficulties in a subject, their special teacher can design an individual education plan for them.

CASE 3 (Rawia)

Rawia chose not to participate in the focus group, but the researcher was able to speak with her mother via the telephone, and used some of the information gained in this conversation in this paper, with the permission of all concerned.

Demographic information

Rawia is an 18-year-old female student in year three at Al Kauthar. She has been diagnosed with a mild-to-moderate hearing impairment, and wears a hearing aid. Rawia's mother stated that she was born ten weeks early, which caused the hearing impairment. She gained an overall score of 94.36% in year two, which is an excellent percentage in the Saudi education system.

Prior education

Rawia has never attended a special school for deaf (deaf institute), having started her education at the age of seven at a general primary school, where her mother worked as a teacher. When she finished primary school at the age of 12, she transferred to a mainstream intermediate school, and then on to the Al Kauthar mainstream secondary school at 16.

Attitude toward the Deaf institute and sign language

When asked for her opinion about special school for deaf, Rawia said that she had heard about this option but had never attended such a school 'because I spoke, rather than signed. I don't know anything about deaf institutes; the use

of sign language is not normal for me' (Rawia, Interview 1). During the interview, Rawia's speech was clear, and she did not use sign language.

Feelings of belonging at Al Kauthar

When Rawia was asked how she felt about Al Kauthar secondary school, she responded:

'In year one, the first time I saw secondary school students, I really wanted to learn from them, and wanted to do my best to be like them. After less than one week, I could speak with them, and gradually became accustomed to both them and my DHH peers; however, we were still not accustomed to the academic information we are taught in secondary school'. (Rawia, Interview 1)

She added that in year three, she feels very happy, and loves her teachers and colleagues.

Social interaction and relationships with peers

Amal stated that Rawia is very sociable with all her peers, both hearing and DHH. Rawia reported that she became socially integrated with her hearing peers after just one week at Al Kauthar. She stated that she enjoys good relationships with everyone, but prefers to sit with her hearing peers for the following reason:

'Sometimes, the integrated [DHH] students talk about me, which can make spending time with them annoying. The hearing students do not talk about me, but rather other things, which is better because I don't like people talking about me or others'. (Rawia, Interview 1)

When asked about friendships, Rawia responded that she has both hearing and DHH friends. She stated: 'If hearing students ask me to spend time with them, I will, while and if the integrated students ask me, I'm also happy to spend time with them.' (Rawia, Interview 1).

Relationships with others

Rawia reported that she enjoys good relationships with both her specialist and general teachers, all of whom view her positively, with the exception of one general teacher. The quality of her relationship with her specialist teacher was made evident during the classroom observations; in an English lesson, Rawia and her specialist teacher talking and laughing together (Rawia, Observation 2).

Participation in learning and in school activities

Rawia did not raise her hand or participate in either of the lessons observed - the social and religious studies lessons. When asked about this, Rawia said that she does sometimes participate in lessons, especially with her teachers who encourage this. She said that her lack of participation in some sessions could be explained by the fact that she did not like some subjects, such as English, and because she did not understand some of her teachers. She also added that in her religious studies class, she often felt sleepy: 'I don't want to participate; the words are too long and difficult, and I cannot pronounce them' (Rawia, Interview 2).

Speaking about Rawia's level of participation, Special teacher Amal said:

'Her academic level is good; she is interested, studies hard, completes her homework and projects, and submits her work on time. I like students who care, and Rawia always asks about exam times and the

nature of the questions, and gets good grades'. (Special teacher Amal, Interview)

Rawia frequently participates in other school activities such as the morning broadcast, about which she said, 'My speech is clear and other students understand me' (Rawia, Interview 1). Rawia also participated in the national day activities for which she sang a song that both the teachers and students enjoyed, and led the general teachers to ask her to attend their meetings about school activities.

Difficulties and barriers at Al Kauthar

Rawia has encountered problems with one teacher, stemming from a low grade that teacher gave her:

'The problem arose due to the participation grades and the monthly exam. I wrote the correct answer in the exam, but she still gave me a low grade. I had prepared for the exam very well, so this created a problem'. (Rawia, Interview 1)

Rawia has also stated that she finds it difficult to get a seat at the front of the classroom because the hearing students usually take the front rows, which means that she is obliged to sit at the back. She added, however, that 'some teachers change our places so that DHH students aren't forced to sit at the back' (Rawia, Interview 2).

Speech

Rawia experiences some difficulties at her mainstream school related to the speech difficulties she has in some subjects such as English and religious studies because she is not always able to pronounce long words and complex sentences.

Support

When asked about the additional support she receives at Al Kauthar, Rawia mentioned that the presence of specialist teachers is particularly valuable because they help her to understand the lessons, thanks to the simple teaching methods they employ. Rawia indicated, however, that not all sessions include a specialist teacher. The value of the presence of the specialist teacher was evident during the classroom observation of the English session, when the specialist teacher explained to the students with DHH what the general teacher had said, and asked the teacher to focus more on the latter.

Rawia also reported that the specialist teacher sometimes brings her and other students with DHH to the resource room to explain difficult concepts, while she also made it clear that she did not need an individual education plan.

CASE 4 (Sara)

Demographic information

Sara is a 16-year-old female student in year two of Al Kauthar secondary school. She has been diagnosed with a mild-to-moderate hearing impairment, and wears a hearing aid. She gained an overall score of 91.00% in year one, which is an excellent result in the Saudi education system.

Sara's character

The specialist teacher Hana stated that Sara is:

'a clever student in year one who invariably participates in the classroom. If she needs anything, she just speaks out, and sometimes she talks on behalf of her friends. She interacts well with others and

has an attractive personality; she is very strong, and I can say that she is confident'. (Hana, Interview)

Prior education

Sara had never attended a specialist school for DHH students, also known as a deaf institute. She started her education in a mainstream primary school at six years of age. This school was not fully inclusive, and therefore Sara studied in specialist classes for DHH students. When she finished primary school at 12, she transferred to a mainstream intermediate school, and then went to Al Kauthar at the age of 16, both of which are fully inclusive.

Attitudes toward the deaf institute and sign language

Although Sara has never attended a specialist DHH school, she stated that she understands how they work:

'I know that they only use sign language, and there are no general speaking lessons. Because of that, I wanted to study in a mainstream school to know how to speak. My mother said that they only use sign language in deaf institutes, and does not like me to use sign language because she wants me to speak normally'. (Sara, Interview 1)

Feelings in the Al Kauthar

Sara said that when she transferred from her intermediate school to Al Kauthar, she was excited and happy, but that after she embarked on her studies, she became worried due to her academic difficulties. The specialist teacher Hana said that Sara often appears embarrassed in front of hearing students: 'She usually covers her hearing aids with her hair so that they are invisible' (Special teacher Hana, Interview).

Social interactions and relationships with peers

Hana said that Sara had not completely integrated with her hearing peers, suggesting that this was because Sara is shy. This was evident to me during my classroom observations of both Holy Quran and religious studies lessons because Sara's interactions with her hearing peers were very limited at these times, and she spoke in a very quiet voice. When asked if she had hearing friends, Sara responded, 'Yes, but only in the classroom' (Sara, Interview 1). Her good relationships with DHH peers could be seen during the classroom observations, when she spent a lot of time talking and laughing with other students with DHH.

Relationships with others

Sara described her relationships with her general and specialist teachers, as well as her head teacher, as good, and explained that she did not have any problem with any staff members at her school. The researcher observed that in a lesson on the Holy Quran, there seemed to be a supportive relationship between Sara and her general teacher; for example, when the teacher looked at Sara and asked her if she had heard her, Sara went to the teacher and spoke with her, and then returned to her chair smiling.

Participation in classroom and school activities

When asked about her level of participation in the classroom, Sara said, 'I do not want to participate,' but also made it clear that she knew that she should participate more, but that she sometimes does not know the answers to questions, and does not want to make mistakes. She added that although her general teachers only ask hearing students to participate, if they asked her, she would not be able to respond well.

Her lack of participation could be seen during the classroom observations. For example, in the religious studies session, 'the general teacher asking the students to raise their hands; however, Sara did not raise her hand or answer the question' (Sara, Observation 2). In the second interview, I asked Sara why she did not participate, and Sara responded that when she understands the teacher, she tends to raise her hand to answer the question. In addition, she indicated that she receive full marks for participation in her reports because all her teachers would give their students additional exams to increase their participation grades. Sara also said that she does not want to participate in other school activities such as the school broadcast or national day as a result of her speech difficulties.

Difficulties and barriers at Al Kauthar

When asked about her difficulties, Sara stated that the hearing students in her lessons emit a great deal of sound and disturbance, which annoys her because it prevents her from being able to understand the teacher. She also mentioned a number of difficult subjects such as physics and chemistry, adding, 'There is a lot of information [in these subjects], a lot of things I cannot study or remember' (Sara, Interview 1). She went on to say that these academic difficulties were largely resolved by year two.

Speech

Sara said that she preferred not to participate in school activities, stating, 'I am afraid that the other students will laugh because my speech is not clear' (Sara, Interview 1). Hana indicated that Sara has difficulties interacting with hearing students because she unsure whether they understand her. She added:

'If I am not in the classroom, Sara will not participate because she thinks that the general teacher will not understand her, so she needs

me to explain to the teacher what she says. However, in the resource room, she is able to speak normally'. (Special teacher Hana, Interview)

Exams

According to Sara, her exams are easy, but the social subjects are difficult, and there is a lot of information to be learnt. Last year, our specialist teacher, Rana, gave us a summary of the course that made the exam easy, but the textbook makes it difficult'. (Sara, Interview 1). In the focus group, however, Sara said that she usually spends a short amount of time preparing for exams, about one hour for her monthly exams and four for her final exams. This may indicate that she does not spend enough time preparing for exams, which could explain why she finds them difficult. Sara added that she does her exams alongside her hearing peers, but that students with DHH sometimes take their exams after the hearing students.

Support

Sara said many times that she receives support from her specialist teachers. For example, the specialist teachers summarise the curriculum to make it easier for her to understand, and provide support in the classroom by explaining what the general teachers have said. In the observations, I witnessed the support provided by the general teachers; for example, they gave the students with DHH additional time to prepare before their Holy Quran oral exam (Sara, Observation 1).

When asked about the resource room and whether she had an individual education plan, Sara said that she did not need the latter, but that she did receive support in the resource room, along with her DHH peers. Sara also indicated that

the specialist teacher repeated some difficult sessions with them to make sure they understand the material covered.

CASE 5 (Arwa)

Demographic information

Arwa is a 17-year-old female student in year two at Al Kauthar. She achieved an overall score of 93.63% for year one, which is an excellent result in the Saudi education system Arabia. She has been diagnosed with a mild-to-moderate hearing impairment, and wears hearing aids.

Arwa's character

Special teacher Hana stated that Arwa is an excellent student who always supports her peers. She added:

'The hearing students depend on her in classroom activities and participation. For example, in an Arabic session, when the teacher asked a question, she knew the answer, but preferred to not participate, and instead chose to help her hearing and DHH peers to participate. I think that she believes that she does not need the support of a specialist teacher; she is really leader in her classroom'. (Special teacher Hana, interview).

Prior education

Arwa started her education in a mainstream primary school at six years of age. She once visited a deaf institute, but never underwent any formal education there, and therefore cannot compare DHH and mainstream schools.

Attitude toward the deaf institute and sign language

Arwa indicated that although she did not know anything about education in a deaf institute, she thinks that it would be better than mainstream schools for students with DHH:

'There is a specialist teacher in deaf institutes who we can understand, but here, there are only general teachers who we do not always understand. The special teachers in deaf institutes use sign language to communicate, and do not go too fast'. (Arwa, Interview 1)

Feelings in the Al Kauthar

Arwa said that she enjoyed spending time with her hearing and DHH friends, and likes attending Al Kauthar. However, she added that she is not happy in the literary path at school because she prefers science. Arwa said that she loves everything about her school except learning some literary subjects because she does not understand them.

However, she made it clear that she thought that intermediate school had been better for her 'because it was easier' (Arwa, Interview 1).

Social interaction and relationship with peers

Arwa said that she has friendships with both her hearing and DHH peers, describing her relationships with them as perfect. She added that 'sometimes, I explain mathematics to my DHH peers with if they do not understand the teacher. I wish I could support them more.' (Arwa, Interview 1)

This was evident in the classroom observation; for example, in an English lesson, Sara spoke with her hearing peers many times, while on another occasion

'a student with DHH asked Arwa for a page number, and she responded with the correct information' (Arwa, Observation 1).

Arwa said that she maintains relationships with her hearing peers both inside and outside school, staying in touch via the social media platform WhatsApp.

Relationships with others

Special teacher Hana said that she has a good relationship with Arwa, but that Arwa tries to limit the extent of the relationship. According to Hana, 'Arwa does not want to be close to her specialist teachers; she does not want us to ask her to participate because if she wants to, she will do so herself' (Special teacher Hana, Interview). Arwa said that her relationships with her specialist and general teachers are generally good, but that she has a problem with one general and one specialist teacher. She said that she does not like special teacher Rana, but did not give a reason. In an English lesson, the researcher observed 'Rana talking with Arwa, and Arwa answering with an angry face' (Arwa, Observation 1). Arwa explained that she had also a problem with her general teacher because 'she does not know how to deal with us [hearing-impaired students]; she puts pressure on us to participate, and refuses to go to the resource room to meet the specialist teacher' (Arwa, Interview 1).

Participation in classroom

Arwa said that she sometimes participates in classroom activities if she knows the answer to a question, but does not like it when the teacher puts pressure on her to participate; if a teacher does so, she will refuse to give an answer. According to Arwa, her lack of participation in some lessons can be attributed to a misunderstanding of the teacher's method of teaching. In both the

English and religious studies classroom observations, Arwa did not once raise her hand to answer (Arwa, Observations 1 and 2).

Difficulties and barriers at Al Kauthar

Arwa said that she did not experience many problems or difficulties at Al Kauthar, but she suffer from a failure to understand in some lessons, which was a problem she did not face at her mainstream intermediate school.

Exams

The exams she has done at secondary school tend to be easy, according to Arwa, if her teachers summarise and underline the main points in the curriculum. Hana stated that 'Arwa always obtains full marks in her exams' (Special teacher Hana, Interview).

Support

Arwa said that she and her DHH peers always obtain the necessary support from her specialist teachers, both in the general classroom and in the resource room. This was evident in the English lesson that observed; the specialist teacher repeated to Arwa and her peers what the general teacher had said to the whole classroom (Arwa, Observation 1). However, Arwa has not been given an individual education plan from her specialist teacher because Arwa she does not believe that she needs it.

When asked about the support she received from her general teacher, Arwa said: 'If there is homework or an exam, the general teacher comes to tell us, and sometimes asks our hearing peers to inform us about it' (Arwa, Interview 1).

CASE 6 (Rem)

Demographic information

Rem is a 17-year-old female student in year two at the Al Kauthar mainstream secondary school. She obtained an overall score of 78.91% in year one, which is not a particularly good result in the Saudi education system. She has been diagnosed with a mild-to-moderate hearing impairment, and wears hearing aids.

Prior education

Rem started her education in a specialist school for DHH students at the age of six. She attended a deaf institute for about one month, before moving to a mainstream primary school. Rem said that her mother chose to transfer her because she believed that this would be better for her daughter. She then continued her education at a mainstream intermediate, and then at Al Kauthar mainstream secondary school at 16 years of age. Despite the limited time that she has spent at a deaf institute, Rem thinks that it is difficult to learn there because 'the students and teachers at the deaf institute use sign language' (Rem, Interview 1).

Attitude toward the Deaf institute and sign language

When asked for her opinion about specialist DHH schools, Rem stated that she did not like to study there, and that she preferred mainstream schools because she does not like using sign language to communicate, when learning.

Feelings in the Al Kauthar

Rem said that she was generally happy at Al Kauthar, but admitted that she does experience some academic difficulties.

Social interactions and relationship with peers

Rem said that all her friends are fellow DHH students, and that she does not have any hearing friends at school, although her relationships with her hearing peers have become more positive because 'they are nice, and if I do not understand something in the classroom, I speak with them, and they help me to understand' (Rem, Interview 1). This relationship was visible in the research skills lesson that when some students (including Rem) went to the teacher to check their answer. While she was waiting her turn, Rem had a conversation with a hearing peer that lasted for about one minute (Rem, Observation 2). The general teacher in this lesson, Saga, reported that Rem enjoys a positive relationship with her hearing peers, which 'was visible when their teacher was absent and I went instead of her. I realised that Rem is very well integrated, and that she sits together with her hearing peers' (General teacher Saga, Interview). The special teacher Hana, on the other hand, said that Rem's relationships with her hearing peers are not strong enough, and that she has better relationships with her peers with DHH.

Relationships with teachers

Rem has good relationships with her general and specialist teachers. In the first focus group, when one participant criticised some of the teachers, Rem spoke up to defend them. For example, when one student said that the teachers could be arrogant, Rem said, 'No, they are not' (Rem, Focus Group 1).

Participation in learning and school activities

In the first interview, Rem said that she always participates in classroom activities, but in the Arabic and research skills lessons I observed, she did not appear to participate. In one lesson, 'the teacher asked about previous lessons,

and while some students raised their hands, Rem did not' (Rem, Observation 1). When asked in the second interview about why she did not participate in the observed lessons, Rem said that she did not understand those lessons, but that she usually does. This was confirmed by the general teacher Saga, who said: 'She usually participates in my lessons. She tries to understand and remains focused, but can be a little shy' (General teacher Saga, Interview). Special teacher Hana added: "Rem is a hard-working student. She tries to do her best, and is doing well academically' (Special teacher Hana, Interview). Another possible reason for the contradiction between what I observed and what the teachers and Rem said could be the pressure of being observed or the difficulty of the observed subjects.

Rem also said that she never participated in other school activities such as the morning broadcast or national days, and that she does not want to because she feels shy about doing so. However, she added that she has never been asked by teachers to get involved, and that if asked to do so, she would refuse.

Difficulties and barriers at Al Kauthar

According to Rem, she finds it difficult to understand her general teachers in most lessons. She added that while she finds most subjects difficult, she thinks that they have become easier since she entered the second year.

Exams

Hana stated that Rem experiences difficulties during exams: 'Rem is a hard-working student, but does not find school easy, and does not obtain high grades in her exams' (Special teacher Hana, Interview). Rem also said that one of her chief problems at school is maintaining a sufficiently high academic level, and that she finds the exams harder than at primary and intermediate schools.

Support

Rem said that her hearing peers are cooperative and that they support her when she needs them. In the Arabic lesson I observed, “Rem turned around [to] her hearing peer and asked her. The hearing student answered her and helped her in writing” (Rem, Observation 1). In addition, she stated that she also always obtained support from the special teachers when they take the students to the resource room and explain some sessions. Rem also indicated that she obtained individual support from the special teacher in the Research Skills class, but she prefers to be with her peers with DHH because she feels shy when she is alone with the special teacher.

According to Rem, a positive aspect of her lessons is that her general teachers try to write lesson summaries on the board and via projector, which help her to understand the content being taught.

CASE 7 (Maram)

Demographic information

Maram is a 21-year-old female student in year two at Al Kauthar. She earned an overall score of 75.14% as in year one, which is a relatively low result in the Saudi education system. She has been diagnosed with a moderate hearing impairment in one ear and normal hearing in the other, while she wears hearing aids in both ears.

Prior education

Maram has never attended a specialist DHH school, but rather started her education in a general school, without any specialist support. She failed and repeated her first year of general primary school. After that, Maram studied at home for two years, but again failed and had to repeat these two years. Home

study is only permitted in Saudi Arabia for specific cases, such as SEN students and older people, and entails students only attending school for their exams. Maram said that she studied at home due to the absence of specialist support and as a result, she fell behind her peers for three years, which explains her advanced age for her year group. However, her age does not impact the way in which she interacts with her peers because she appears younger than she actually is.

When she finished her general primary school, she transferred to a general intermediate school, and after one year there, she transferred to a mainstream intermediate school, Al Kauthar.

Maram has two older sisters with a severe hearing impairment who have completed their education at a deaf institute, so she can be said to know this path very well, while she also uses sign language at home.

Attitude toward the Deaf institute and sign language

Maram said: 'The deaf institute is a fun school; the teachers are very good at explaining and the students do well there. They know how to participate; actually, the students do well at everything' (Maram, Interview 1). However, when asked if she wished to study in a deaf institute, she responded that she preferred mainstream schools. In the second focus group, Maram explained to her DHH peers that she prefers not to attend a specialist DHH school because she wants to learn how to communicate, to hear more, and to talk and hear.' She added that if students with DHH fail to understand something in class, the hearing students help them to understand (Maram, Focus Group 2).

Feelings in the Al Kauthar

Maram indicated that she is not very happy at Al Kauthar because she does not like the teachers or head teacher, adding that she was happier in intermediate school: 'My intermediate mainstream school was the best' (Maram, Interview 1). She believes that in her intermediate school, the teachers knew their students with DHH and encouraged them to participate, while at secondary school, the teachers do not know their DHH students, and so they ignore them. Maram added that she feels angry when the hearing students, and even the general teacher, laugh when her and her DHH peers are unable to speak clearly, when attempting to participate.

Social interactions and relationships with peers

According to the special teacher Hana, Maram maintains good social interactions with both her normal-hearing and DHH peers. Hana believes that this is because Maram's speech is very clear. In the first focus group, however, Maram indicated that her relationships with hearing students are not strong, but that she does have hearing friends, given that she attended an intermediate school with hearing students, before going to Al Kauthar.

Relationships with teachers

When was asked about her teachers, Maram responded that she did not like them, speaking in particular about one specialist teacher who tried to separate her from a hearing friend:

'I have a hearing friend, and on one occasion, when I was spending time with her, Rana (special teacher) said to me, "Don't walk with her."

I was really annoyed by the way the teacher spoke to me. I don't like

her, and that's the reason why I don't like going to school'. (Maram, Interview 1)

Participation in learning and school activities

Hana stated that Maram does not usually participate in class, even when she knows the answer to a question. However, in a history lesson that I observed, Maram raised her hand about three times. On one occasion, 'The teacher asked Maram to stand up and answer a question. Maram did so and answered the question, so the teacher said, "Good answer, Maram".' (Maram, Observation 1). However, in a computer science lesson, Maram did not raise her hand once to participate, even though the general teacher asked a large number of questions. When Maram was asked why she participated in history but not in computer science, she replied that she liked the way that her history teacher asked her to participate: 'She is my only teacher who gives good explanations, and asks all students to participate' (Maram, Interview 2). Maram added that she had felt sleepy in the computer science lesson in question because she had not slept well in the previous night.

When Maram was asked whether she participates in other school activities such as the national day celebrations and morning broadcasts, she said that she did in intermediate school, but now did not wish to do so because she disliked her current school.

Difficulties and barriers at Al Kauthar

Maram explained that she does not have a good relationship with her teachers: 'When I faced a problem with one special teacher, I went to tell the head teacher, but she told me that it was my own fault!' (Maram, Interview 1). In addition, Maram said that she did not like the environment at Al Kauthar,

comparing its cleanliness and modernity negatively to that of her previous school: 'There is a huge difference between my intermediate and my current school. My previous school was much better; they cleaned it every day' (Maram, Interview 2).

Exams

Maram said that she does not find her exams very difficult, but that when she was completing her final exams at the end of year one at Al Kauthar, her specialist teachers did not attend with her to provide support, but she nevertheless did well. Special teacher Hana reported that Maram always receives good marks in her exams.

Support

According to Maram, she receives additional support from specialist teachers who explain course material in important subjects such as maths and English in the resource room; however, she was keen to state that she did not always need these sessions. She added that her general teachers provide support by speaking loudly and clearly to ensure that their students with DHH can hear and understand them.

CASE 8 (Hatan)

Demographic information

Hatan is a 17-year-old female student in year two at Al Kauthar mainstream secondary school. She obtained an overall score of 74.94% in year one, which is a fairly low result in the Saudi education system. She has been diagnosed with a mild-to-moderate hearing impairment, and wears hearing aids.

Prior education

Hatan has never attended a specialist DHH school; she started her education in a mainstream primary school at the age of seven, where she was placed in a specialist classroom for DHH students. She transferred to a mainstream intermediate school that was fully inclusive aged 13, and then went on to Al Kauthar at 16. Hatan has one younger sister who also has a hearing impairment, and who studies in a mainstream school.

Attitude toward the Deaf institute and sign language

When was asked about which type of school she preferred, Hatan said that she thought that deaf institute were better, before going on to add: 'The school here is not good. The hearing students always laugh at me, even though I am normal! And, I don't understand the lessons that the teachers give, so I'm unable to participate. ... My mother wanted me to be educated at a deaf institute, but it refused to accept me because I can speak' (Hatan, Interview 1). She also said that her father preferred that she attend a general school because he wanted her to speak, rather than communicate via sign language.

Hatan stated that deaf institute were better because 'most of the teachers are specialised; they are able to support and explain better via signs so I can understand, but here at Al Kauthar, I do not always understand what the teachers say' (Hatan, Interview 1). She added that if she could choose where to study, she would have chosen to go to a deaf institute.

Feelings in the Al Kauthar

Hatan said that when she first transferred to Al Kauthar, she felt very worried at the beginning, but that now, 'Everything is fine' (Hatan, Interview 1). She also said that in her first year, she failed two subjects, which left her feeling

disappointed, but that she later passed these subjects and transferred to year two.

Social interactions and relationships with peers

In special teacher Hana's words: 'Hatan is a very quiet and shy student, and has very limited interactions with her general peers. She interacts better with her DHH peers' (Special teacher Hana, Interview). When was asked about her friendships at school, Hatan said that she did not have any hearing friends, even in intermediate school, but that she has two friends with DHH, Arwa and Maram. This was evident when I observed an English lesson, in which Hatan interacted only with Maram. There were three such interactions, such as when 'Hatan spoke with Maram' and 'Maram helped Hatan with her work' (Hatan, Observation 1).

Relationships with others

The general teacher Saga reported that Hatan is a very shy and worried student who does interact with her teachers, but less than her DHH peers. Hatan said that she has good relationships with her general and specialist teachers, and that she did not have a problem with any teacher. Hatan's relationship with her head teacher, however, is not good because she has to leave school earlier than other students. (The school day ends at a specific time, but her father cannot collect her from school at that time because he has to pick up her mother, who is also a teacher, and her other sisters from their schools).

Participation in learning and school activities

Hatan said that she does not tend to participate in classroom activities because she does not understand the lessons, she added then 'I actually not want to participate' (Hatan, Interview 1). This was evident in the two observation sessions observed, in history and English lessons. Hatan did not raise her hand

once, but at the end of the history lesson, 'The teacher went to Hatan to ask her a question, which she answered correctly' (Hatan, Observation 2). However, in the second interview, Hatan stated that she did not like the way the teacher asked her the question in such an unexpected way.

When asked about her level of participation in other school activities such as the national day celebrations and morning broadcasts, Hatan said that she did not want to participate, even if her teachers were to encourage her to do so.

Difficulties and barriers at Al Kauthar

Hatan said that one difficulty she had experienced at Al Kauthar was that she did not have the option of taking a bus to and from school:

'I have to leave school early, and the head teacher is always upset about it; however, she [the head teacher] now knows the reason why this is the case'. (Hatan, Interview 1)

There is a lack of available transportation options for mainstream schools, as well as a lack of communication between teachers and parents/students, which can give rise to problems.

Hatan also stated that she experiences some academic difficulties at Al Kauthar: 'In some subjects such as physics, chemistry, and maths, teachers do not summarised the lessons for DHH students. I actually failed two subjects last year, but passed them in the second-attempt exam' (Hatan, Interview 1). Hatan indicated that the quantity of information that students are expected to learn, especially in the first year of secondary school, made studying difficult, but that these difficulties had lessened in year two. Furthermore, Hatan revealed that she had difficulties understanding her general teachers, which makes it very hard to participate in classroom activities.

Exams

Hatan stated that her first-year exams had been tough because her subjects were difficult, but that the exams in year two are easier. Hana, her specialist teacher, indicated that Hatan sometimes did not prepare well for exams due to the influence of her DHH peers. Hana said that Hatan is an easily influenced student, and when her DHH peers tell her that they will not study for an exam, she does the same.

Support

Hatan pointed out that general teachers sometimes use technology such as projectors to simplify the way content is presented, which helps her to understand. She added: 'If teachers were to include questions and answers on the board, that would make it even easier for us DHH students' (Hatan, Interview 1). Hatan also mentioned the support that she received from specialist teachers in the classroom, who 'accompany us in the classroom to explain concepts to us, if we do not understand' (Hatan, Interview 1). Another factor Hatan mentioned is that she receives help from her hearing peers when necessary, such as repeating the teacher's instructions.

CASE 9 (Lama)

Demographic information

Lama is a 16-year-old female student in year one at Al Kauthar mainstream secondary school. She obtained an overall score of 88.14% in her year-three exams in her intermediate school, which is a fairly good result in the Saudi education system. She has been diagnosed with a mild-to-moderate hearing impairment, and wears hearing aids.

Prior education

Lama started her education in a primary mainstream school at the age of six, and has never attended a specialist DHH school. However, she revealed that she understands how deaf institutes work, and has friends who go to them.

Attitude toward deaf institutes and the use of sign language

Lama stated that deaf institutes offer a better education because the teachers there are very kind, and use sign language. However, she said that she wants to continue to attend a mainstream school because of the teachers and friends she has there.

Feelings in the Al Kauthar

Lama said that when she transferred from her intermediate school to Al Kauthar, she felt scared about the prospect of exams and new subjects such as physics and chemistry. However, Lama revealed that she is now bored by these sessions, and does not like some subjects she studies at secondary school, especially maths. However, she said that this may change in year two, when she can choose to pursue a literary path, rather than a scientific one.

When preparing to conduct the first interview with Lama, the researcher noticed that on one occasion, she ran out of her classroom and began to cry loudly, claiming that her mother had died. However, the school administration later discovered that this was not true. The specialist teacher Maria commented on this incident as follows:

‘She does not feel comfortable when teachers ask her to carry a message to her mother. She even claims that she does not have a mother! Can you imagine this?’ (Special teacher Maria, Interview)

Maria suggested that Lama and her mother have a poor relationship, which gives rise to such incidents. When I asked Lama in the second interview about this incident, and if she wanted to talk about it, she said:

'I was not sad; I was annoyed. I don't want to come to school, and my mother forces me to! I don't want to come every day'. (Lama, Interview 1).

Social interactions and relationships with peers

Lama said that she likes the hearing friends she has at Al Kauthar. In a maths lesson, I observed that 'Lama was having a conversation with a hearing peer' (Lama, Observation 1). The general teacher, Hanadi, said that 'Lama has normal relationships with her hearing peers, and is very careful about fashion' (General teacher Hanadi, Interview). Maria discussed the positive relationships that Lama enjoys with her hearing peers: 'She always walks with them, and they offer support her by saying comments such as "You are beautiful," and other positive remarks' (Special teacher Maria, Interview). However, Maria added that Lama is a careless student who only cares about fashion, and that Lama prefers not to walk with her DHH peers, and does not want to be associated with them. However, Lama said that while she has hearing friends, she has more friends with DHH, with whom she spends time.

Relationships with teachers and mother

Lama said that she does not like some of her general teachers when they deal with students, but that she does like Nora, a general teacher who she states is nice. When asked about her specialist teachers, she said that they are all kind. The biggest problem she has is with the head teacher, who Lama she always shouts at her, when she lets her hair loose.

Maria said that the relationship between Lama and her mother appears not to be good: 'Lama has a problem with her mother, but nobody knows about it. I don't know the exact details ... but I think she has a lack of confidence due to this troubling relationship' (Special teacher Maria, Interview).

Participation in learning and school activities

Lama said that she is not interested in participating in school activities such as the national day celebrations and morning broadcasts, even if her teachers were to ask her to do so, and that she does not participate in the classroom because teachers do not interact with her. However, in the maths and physics lessons that I observed, the teachers were seen participating with all students. For example, in the physics session, 'The teacher asked a student with DHH a question, but she did not know the answer. Lama then raised her hand and the teacher chose her, and she successfully answered the question' (Lama, Observation 2).

Special teacher Maria stated that Lama does not usually pay attention in the classroom, while general teacher Hanadi reported that Lama is dependent on her peers, appears not to want to try and participate, and does not pay attention during her lessons.

Difficulties and barriers at Al Kauthar

Lama stated that she does not understand her teachers because they do not focus on their students with DHH, and that her subjects are very difficult to follow, especially English, maths, physics, chemistry, and biology.

Exams

Lama reported that she does not mind her exams, and that the difficulty of the subjects she studies is more of an issue. General teacher Hanadi, however, stated that Lama does have a problem with exams:

'If Lama has a difficult exam to take, she pretends that something has occurred on the same day either in the classroom or in the morning queue, so the school administration has to take her out. One day, they called her father, who said that she was lying.' (General teacher Hanadi, Interview).

Support

In the physics lesson that I observed, it was evident that the general teacher was offering support to their students with DHH, repeating their instructions for the latter's benefit. I also observed that Lama was supported by a hearing peer who was frequently helped her when asked, and they answered questions together in their textbook.

In addition, Lama stated that she understands her lessons better when a specialist teacher is present. This was evident in the maths and physics lessons observed, when the specialist teacher explained in detail what the general teacher has said, and repeated the instructions. Lama added: 'In the resource room, I can better able to understand the teacher because she focuses on us' (Lama, Interview 1).

CASE 10 (Roaa)

Demographic information

Roaa is a 16-year-old female student in year one at the Al Kauthar mainstream secondary school. She achieved a total score of 82.64% in year three in intermediate school, which is not percentage particularly high result in the

Saudi education system. Roaa has been diagnosed with a mild-to-moderate hearing impairment, and wearing hearing aids.

Prior education

Roaa has never attended a specialist DHH school, having started her education in a mainstream primary school at the age of seven. When she completed primary school, Roaa transferred to a mainstream intermediate school that enjoyed the support of one specialist teacher. In Roaa's own words, 'There were students with hearing impairment at my school, but we were not give any additional support, so when I did not understand something, I had to go to the only specialist teacher in the whole school' (Roaa, Interview 1). After intermediate school, Roaa transferred to Al Kauthar at the age of 16.

Attitude toward the Deaf institute and sign language

When asked for her thoughts about specialist DHH schools, Roaa said, 'I have a friend who studied there, and told me that it is much easier [than mainstream schools] and that the curriculum is different' (Roaa, Interview 1). She added that in a DHH school, she would almost certainly understand her lessons better. However, she admitted that sign language is in use in DHH schools, and that she does not understand it.

Feelings of belonging at Al Kauthar

Roaa said that she felt that she belonged in her school thanks to her teachers and the support they provide: 'I am happy in my schools; all my teachers are good, which I like; even the general students are all good with us DHH students' (Roaa, Interview 1). She added: 'I really feel like I belong in my classroom' (Roaa, Interview 1), and that she enjoyed science subjects such as

chemistry, physics, biology, and maths, so wanted to follow the science path in year two.

Social interactions and relationships with peers

Hanadi, the general teacher, said that Roaa enjoys good relationships with her DHH peers, but has fewer social interactions with hearing students. Roaa reported that she has friends among both DHH and normal-hearing students. In the second focus group, Roaa affirmed that she had a good relationship with her hearing peers, clarifying: 'In the current year, I have more DHH friends, but in the last year [of intermediate school], I had more hearing friends' (Roaa, Interview 1).

Relationships with others

Roaa said that her relationships with her specialist teachers were perfect, and also mentioned in the second focus group that the best aspect of her secondary school is the presence of specialist teachers. Roaa stated that all her teachers, including general teachers, are good at teaching her and her peers with DHH.

Participation in learning and school activities

When asked about the extent of her participation in the classroom, Roaa stated: 'I participate when I understand a question and know the answer' (Roaa, Interview 1). In the English class I observed, Roaa raised her hand twice, giving the right answer on one occasion (Roaa, Observation 1).

According to Roaa, she participated in other school activities such as morning broadcasts and national day celebrations in her intermediate school, but has never done so in her secondary mainstream school, although she says that she would participate if asked to. Roaa added, 'I participated in our projects and

we [Roaa, her DHH peers, and their specialist teacher) talked about it in front of the other educators' (Roaa, Interview 1).

Difficulties and barriers at Al Kauthar

Roaa indicated that she did not experience any academic difficulties in any subject except for research resources, due to the huge amount of information students are required to absorb in those lessons.

Exams and grades

Roaa stated that she has not had any problem with her exams at secondary school. The general teacher Hanadi discussed the achievements of Roaa and her hearing peers in year one as follows:

'There is one thing I don't like about year-one students – they are always expecting to receive full marks. For example, if students did not submit an achievement file by the correct submission date, I will not allow them to receive a grade. Later, when they do not see their marks in the system, they come to me and insist that her mark be changed. If I give a mark of 4 out of 5 due to a delay in submission, they will not accept it very easily.' (General teacher Hanadi, Interview)

Support

Maria complimented Roaa, stating that she does not always require her support in the mainstream classroom: 'When I explain a point from the session to the DHH students, I will try to speak about it with Roaa, but she often says, "No, I understand what the general teacher said"' (Special teacher Maria, Interview). However, Roaa indicated that the presence of a specialist teacher in the general classroom is very helpful, especially for cases in which the students with DHH miss something that the general teacher has said. She gave an example of how

a specialist teacher offered support when required in a maths session: 'I answered a question but at the end, I felt confused, and she supported me' (Roaa, Interview 1). The support provided by the specialist teacher was evident in the English and computer science lessons that I observed. For example, in the English class, the general teacher explained the content, after which the specialist teacher repeated the explanation for Roaa and her DHH peers (Roaa, Observation 1).

Roaa added that her general teachers support her by trying to make lessons easier for students with DHH by providing clear explanations. In the observed computer science session, 'Roaa did what the general teacher asked her to do on the computer program, but at a different size, so the general teacher came to her to correct the sizes' (Roaa, Observation 2).

When asked about the support she received from her hearing peers, Roaa said that they are cooperative, and sometimes help her, without having to be asked.

CASE 11 (Fager)

Demographic information

Fager is a 16-year-old female student in year one at Al Kauthar secondary school. She received an overall score of 77.49% in year three of her intermediate school, which is not regarded as a very strong achievement in the Saudi education system. She has been diagnosed with a mild-to-moderate hearing impairment, and wears hearing aids.

Prior education

Fager has never attended a specialist DHH school, and therefore does not have any information or views about deaf institutes. She started her education at

a mainstream primary school when seven years old. The school was partly inclusive, in that it featured specialist classes for DHH students within the general school. After finishing primary school, she moved to a full-inclusion intermediate school until year two, after which she transferred to a general intermediate school for year three. Fager said that her relatively low academic score in year three can be attributed to the fact that she was studying in a general school without any specialist support. After intermediate school, she started attending Al Kauthar.

Feelings in the Al Kauthar

Fager described herself as feeling happy both at Al Kauthar and the other schools where she has studied, and that she was happy and excited when she transferred to Al Kauthar. However, she stated that she was still not sure what she felt about her current school because she had not yet completed her final exams.

Social interactions and relationships with peers

The general teacher Hanadi reported that Fager's most important social interactions are with her fellow DHH students, but that she also enjoys a good relationship with her hearing peers. In specialist teacher Maria's words:

'She has a good relationship with her DHH peers, all of whom have a good relationship with the hearing students; they appear to fully accept each other.' (Special teacher Maria, Interview)

According to Fager, she has enjoyed very good relationships and friendships with both hearing and DHH students since intermediate school. When asked about her particular friendships, Fager said that her best friend was Ather, who 'is a hearing student who sits behind me, and always helps me' (Fager, Interview 1).

In the observed English lesson, 'the teacher asked a question and Fager turned around to clarify it with Ather, who responded' (Fager, Observation 1).

Relationships with others

Fager said that she likes all her general and specialist teachers, but in the second focus group, she said that she did not have a good relationship with the head teacher because she was always shouting. Nevertheless, the good relationship between Fager and her specialist teacher was visible in the first English observation, where Fager and her DHH peers could be seen talking and laughing with their specialist teacher: 'Fager and her DHH peers asked their specialist teacher about her job and her salary, and she happily discussed it with them' (Fager, Observation 1).

Participation in learning and school activities

Speaking about Fager, general teacher Hanadi said: 'She always participates in my lessons. She is an excellent student and does not want her grades to fall, so she studies hard' (Hanadi, Interview). However, specialist teacher Maria stated that Fager did not always focus on what her general teachers said, and therefore sometimes misunderstood them and chose not to participate. Fager indicated that she tends to participate in the classroom if she understands the lessons, and that she particularly likes it when her general teachers encourage the students with DHH to participate. However, in the observed English and computer science lessons, I did not see Fager participate; she focused on her specialist teacher, and only communicated with her DHH peers. Fager also claimed to be unwell in the English lesson. When asked in the second interview about this apparent lack of participation, Fager stated that she

did not know the answers to any questions, and that otherwise, she would have participated.

Another comment Fager made was that she has never participated in other school activities such as morning broadcasts or national day celebrations because she has never been invited to do so, but if the school authorities were to invite her, she would be happy to participate.

Difficulties and barriers experienced at Al Kauthar

Fager reported that she did not experience any academic difficulties at Al Kauthar, with the exception of research resources, due to the huge amount of information that students are required to learn. However, in the English and computer science lessons observed, Fager was not seen to have any academic difficulties; she spent most of the time interacting with her specialist teacher, and answered most of her questions. In addition, Maria said that Fager is 'one of the best students academically' (Special teacher Maria, Interview).

Exams

Fager said that she had not completed any final exams at Al Kauthar, so was unable to talk about them, but stated that she had done well in her mid-term exams. Asked about her experiences in the subjects she was studying for the first time at Al Kauthar such as chemistry, physics, and biology, Fager said that she received full marks in all of them.

Support

According to specialist teacher Maria, Fager always requires her support: 'She depends on me, and if I am in the classroom, she does not even try to follow the general teacher' (Maria, Interview). Maria suggested that Fager required such a high degree of support due to the nature of her hearing impairment; she made

a direct comparison with Roaa, who she said was not dependent on her specialist teacher.

Asked about the support she receives from her specialist teacher in the classroom, Fager said that she always needed such support, and that for her to do well, her specialist teacher 'has to be present in the classroom' (Fager, Interview 1). She further clarified that the presence of her specialist teacher was extremely important because she makes lessons much easier for both her and her fellow students with DHH. This support was visible in the English and computer science lessons that I observed, where 'the specialist teachers repeated the instructions given by the general teacher to the DHH students. ... The general teacher explains some points to all students, and the specialist teacher then clarifies this same content to the students with DHH' (Fager, Observation 1).

CASE 12 (Munera)

Demographic information

Munera is a 16-year-old female student in year one at Al Kauthar. She obtained an overall score of 99.37% for year three in intermediate school, which is an outstanding result. She has been diagnosed with a mild-to-moderate hearing impairment, and wears hearing aids.

Prior education

Munera started her education in a mainstream primary school at the age of seven, and has never attended a specialist DHH school. After completing primary school, she transferred to a mainstream intermediate school, and then on to Al Kauthar at 16. Munera stated that she does not have any special information or views about deaf institutes, and thinks that the best environment in which she has

studies was her primary school, because of the modern buildings it had. Al Kauthar's current buildings are old, which led her to make a negative comparison.

Feelings about Al Kauthar

When asked about her life at Al Kauthar, Munera stated that she was a little worried because of the academic difficulties she was experiencing there due to the many new subjects she was studying, all of which required her to absorb a large amount of information. However, Munera reported that she loves some of these new subjects such as physics and chemistry. Describing her feelings when she transferred to Al Kauthar, Munera said: 'I was scared initially, but then I got accustomed. I initially felt scared about my new subjects and teachers' (Munera, Interview 1).

Social interactions and relationships with peers

General teacher Hanadi said that 'Munera's relationships with her hearing peers is good, but she does not interact with them very well. Her interactions with DHH students are much more extensive' (General teacher Hanadi, Interview). However, specialist teacher Maria put forward a different opinion about Munera's social interactions:

'Munera's relationships with her hearing peers are very limited. Munera does extremely well academically, but with regard to relationships, she does not enjoy as much contact as, for example Fager and Roaa. For example, one day, a group of students was discussing something, and I noticed that Munera quickly became angry, which is something that one does not see for other students dealing with such a situation. (Special teacher Maria, interview)

Munera said that she has good relationships with her hearing and DHH peers because she had studied with them in intermediate school. However, she added that although she did have DHH friends, she did not have good friendship with her hearing peers.

Relationships with teachers

Munera stated that she had overall positive relationships with her general teachers, and that when she needs something, she does not hesitate to ask. She added that the specialist teachers at her school are all good, while she enjoys a good level of communication with all her teachers, who she considers kind and supportive. I observed the high quality of these interactions between Munera and Maria was in a physics lesson, when 'the specialist teacher and Munera displayed a good level of communication and respect' (Munera, Observation 1). However, Munera said that she does not interact with her school's head teacher.

Participation in learning and school activities

Munera indicated that she tends to participate in the classroom, whether or not the specialist teacher is present, because she wants to always receive full marks for participation. This was visible in the physics and English lessons that I observed, in which she frequently put her hand up to answer questions; however, they did not choose her to give an answer. Both Hanadi and Maria agreed that Munera is an excellent student academically, but Munera admitted that she never participated in the other school activities such as national day celebrations and morning broadcasts because she feels shy about speaking in front of the entire school staff and students, which is not the case in her classroom.

Difficulties and barriers experienced at Al Kauthar

Munera said that she did not understand some concepts in new subjects such as chemistry and physics because the huge amount of information she was required to absorb and the speed of her general teachers' speech made these lessons more difficult. In addition, Munera reported that she and her peers with DHH find it difficult to understand their teachers due to the noise that some hearing students make.

Exams

Munera stated that she found her exams easy, and did not face any difficulties with them.

Support

According to Munera, she receives support from her specialist teacher, which makes lessons easier, because the specialist teacher repeats what the general teacher says. In addition, Munera said that on some occasions, her specialist teacher often takes her and her fellow DHH students to the resource room to explain difficult concepts. The support provided by the specialist teacher was visible in the classroom observations; for example, in a physics lesson, the specialist teacher supported Munera by repeating and simplifying what the general teacher had explained to the entire classroom (Munera, Observation 1). Another factor Munera mentioned was the help provided from the general teacher: 'She makes sure she looks at all of the students in the classroom, and writes out concepts on the board to give us DHH students a chance to absorb the information more easily' (Munera, Interview 1). This type of support was observed in the physics lesson attended; the general teacher was seen to explain a concept on the board so that all students, included the girls with DHH, could understand

it (Munera, Observation 1). Munera also mentioned that her hearing peers offer some support: 'They help us if there is something that we find difficult. Actually, only some of them do that, while others don't' (Munera, Focus Group 2).

Munera stated that the resource room was a valuable educational support tool for the DHH students at school because it offers a level of quiet and privacy that cannot be obtained in a general classroom.

5.4 Part two: Cross-case findings

To obtain a broad picture of the participants' experiences, the findings obtained from all student cases will be presented by theme, and therefore some quotations will be repeated in this section. The themes will be presented in the same order as done for the individual cases listed above.

Prior education

When the researcher asked the students about the type of school in which they had started their education, four different settings were mentioned, which will have affected the students' experiences and perspectives. Some students attended a mainstream primary school, such as case 1 (Abeer), case 5 (Arwa), case 6 (Rem), case 9 (Lama), and case 12 (Munera). Four students had the benefit of attending specialist classes in a mainstream primary school, namely case 4 (Sara), case 8 (Hatan), case 10 (Roaa), and case 11 (Fager). The third setting was the general primary school, which was the option attended by case 2 (Faten), case 3 (Rawia), and case 7 (Maram). As mentioned in Chapter Two, mainstream schools offer specialist educational support for students with DHH, which is not available in general schools. Case 6 (Rem) is the only student who started her education in a specialist DHH school, also known as a deaf institute;

however, she only spent one month there before moving to a mainstream primary school. After primary school, all the participants transferred to a mainstream intermediate school, after which they moved on to Al Kauthar mainstream secondary school. The different settings experienced by some of the cases constitute an opportunity for them to better understand the nature of different school types. However, this purpose of this study is not to compare these different settings, but rather explore the students' experiences of inclusivity. The various cases and their education histories are presented in Table 8.

Type of educational setting	Student case names	Additional notes
Mainstream primary school (full inclusion)	Abeer Arwa *Rem Lama Munera	
Mainstream primary school (partial inclusion)	Sara Hatan Roaa Fager	
General school	Faten Rawia Maram	Without any special educational support
deaf institute	*Rem	Rem only spent about one month there before moving to a mainstream primary school
*Rem only spent one month in the deaf institute then she transfer to mainstream primary school (full inclusion) ,therefore, she repeated twice in the table.		

Table 8: the prior educational setting for the cases

Attitude toward speech versus sign language and the different settings

The cases' attitudes towards the prospect of attending a deaf institute were usually connected to their attitudes towards the use of sign language or speech. The students who displayed a positive attitude towards the use of sign language seemed to also evidence a positive attitude towards deaf institutes. However,

most of the participants expressed negative attitudes towards sign language, and therefore had a corresponding negative attitude towards deaf institutes. These views were put forward by most participants, such as case 1 (Abeer), case 2 (Faten), case 4 (Sara), case 6 (Rem), case 11 (Fager), and case 12 (Munera), who of whom stated a preference for studying in mainstream schools and using speech. Faten and Sara said that their mothers also had negative opinions concerning deaf institute: 'My mother did not like the idea of my attending a deaf institute because she said that they always use sign language' (Faten, Interview 1). Sara said that because deaf institutes employ sign language, she and her mother both view mainstream schools as a better option because by studying in mainstream schools, she will improve her speech abilities (Sara, Interview 1).

On the other hand, five students said that they thought they would receive a better education if they studied at a deaf institute because such an education would entail the use of sign language, rather than just speaking. The five participants in question are case 5 (Arwa), case 7 (Maram), case 8 (Hatan), case 9 (Lama), and case 10 (Roaa), who offered various reasons for their preference. For example, Arwa and Hatan focused on the way in which specialist teachers give their classes in deaf institutes: 'they use sign language when they speak, and do not go fast' (Arwa, Interview 1); Hatan said: 'Most of teachers [at deaf institutes] are specialised; they explain course material more effectively, using sign language so I can understand' (Hatan, Interview 1). On the other hand, Maram, who has two deaf sisters who were educated at a deaf Institute, spoke about deaf institutes as follows: 'Deaf institutes are fun; the teachers give good explanations, and the students doing well. They know how to participate, and learn a lot' (Maram, Interview 1). They also said that they would prefer to study at a deaf institute if they had the choice, except for Maram; when asked if she

wished to study at a deaf institute, she replied, 'No, I prefer general schools' (Maram, Interview 1). Maram said that attending a mainstream school will give her more opportunities to communicate with her hearing peers, and learn how to speak to and understand others better (Maram, Focus group 2).

Hatan touched on her mother's attitude towards deaf institutes: 'My mother wants me to be educated at a deaf institute, but it did not accept me because I can speak' (Hatan, Interview 1).

Feelings of belonging to the Al Kauthar mainstream secondary school

The majority of participants (eight out of 12) stated that they felt happy at Al Kauthar; these were case 1 (Abeer), case 2 (Faten), case 3 (Rawia), case 4 (Sara), case 5 (Arwa), case 6 (Rem), case 10 (Roaa), and case 11 (Fager). Although Faten, Rawia, Sara, and Rem stated that they have experienced academic difficulties at Al Kauthar, this has not changed their feelings of happiness at school. Abeer and Roaa discussed why they felt so happy and that they belonged at Al Kauthar:

'I am happy here, and have learnt to speak like other people. Furthermore, by studying with students who can hear, I have learnt to speak like they do. I feel that I understand them very well... I am a part of the classroom'. (Abeer, Interview 1)

'Thanks to God, I am happy here. All the teachers are good with us [DHH students], so this is good; even the general students are all positive... I really feel that I belong to my classroom'. (Roaa, Interview 1)

On the other hand, case 7 (Maram), case 9 (Lama), and case 12 (Munera) said that they do not feel so happy at Al Kauthar because they are facing a

number of academic difficulties. In addition, Maram said that another reason why she was not happy at school was because she feels angry when the hearing students and even her general teacher laugh when she and her fellow DHH students make mistakes, when they attempt to participate.

Hatan was the only participant who said that she was not happy in her first year at Al Kauthar, but that the situation markedly improved when she transferred to the second year. This was due to the fact that her subjects became easier after the first year.

Social interaction and relationships with peers

Six of the 12 participants described their interactions, friendships, and relationships with their hearing peers and teachers as positive. Case 1 (Abeer), case 3 (Rawia), case 5 (Arwa), case 7 (Maram), case 9 (Lama), and case 11 (Fager) reported that they have many hearing friends, and that they frequently interact socially with their hearing peers. In their interviews, their teachers agreed that the students with DHH enjoy positive social relationship with their hearing peers. The participants gave four main reasons why this was the case: the characteristics of individual DHH are important, such as whether or not they are sociable; acceptance and support from hearing peers; technological and social media support; and speech skills. Abeer discussed the relationships she had with others, both in and outside school:

‘I know many hearing students in both my and other years. I am very friendly, and like to get to know other people, even those at university, Most of these friends are hearing students.’ (Abeer, Interview 1)

Rawia, on the other hand, spoke about the extent of acceptance from her hearing peers, stating that the level of social interactions she had with others depended

on whether they accepted her (Rawia, Interview 1). Fager further mentioned that her best friend Ather was a normal–hearing student who always supported her: ‘She is a hearing student who sits close to me, and always offers her support’ (Fager, Interview 1).

Arwa stated that given the state of technology, she is able to stay in contact with her hearing peers outside school via social media platforms (Arwa, Interview 1). In addition, Maram said that she has many friendships with hearing students due to her advanced speech skills: ‘My hearing friends tell me that I do not seem like an integrated [DHH] student’ (Maram, Interview 1). Lama was another participant who said that she had friendships with hearing friends, but said that she felt a greater sense of belonging with her DHH peers, and therefore has stronger relationships with them:

‘I have many hearing and DHH friends, but I have more DHH students as friends I love their characters more.’ (Lama, Interview 1)

The other six participants – case 2 (Faten), case 6 (Rem), case 4 (Sara), case 8 (Hatan), case 10 (Roaa), and case 12 (Munera) – said that they did not have a high level of social interactions with their hearing peers, and did not have friendships with them, but at the same time, they said that there were no negative relationships between the two groups. A number of reasons were put forward for this. Hana, a specialist teacher, suggested that major factors for this were the DHH students’ quietness and shyness, and that they felt embarrassed about their limited ability to communicate. This was particularly the case for Hatan and Sara:

‘Hatan is a very quiet and shy student, and has very limited interactions with her general peers. She interacts better with her DHH peers’ (Special teacher Hana, Interview).

'Sara's relationships with other DHH students are perfect, but she does not have strong relationships with her hearing peers; she is not close to them. I think this is because she feels embarrassed if they do not understand her when she talks'. (Special teacher Hana, Interview)

General teacher Saga also suggested that Rem has few friendships with hearing students because 'she is a little shy' (General teacher Saga, Interview). Roaa said that the reason why she has few friendships and interactions with her hearing peers is because she is a new, first-year student at Al Kauthar. In her own words:

'In the current year, I have more DHH friends, but in the last year [of intermediate school], I had more hearing friends' (Roaa, Interview 1).

Faten suggested some additional reasons for the limited interactions between DHH and hearing students: 'It could be that the general students are embarrassed to spend time with us, so do not come over to talk' (Faten, Interview 1). Faten went on to say: 'Some hearing students are just arrogant!' (Faten, Interview 1).

Relationships with teachers and mothers

Most participants said that they had positive relationships with both their specialist and general teachers; they said that they enjoyed good communication with them, describing them as kind and supportive. However, two students – case 7 (Maram) and case 9 (Lama) – said that they did not have positive relationships with some of their general teachers. Maram and Lama stated that they did not like the way that some general

teachers dealt with their DHH students, although Maria said that she thought that Lama's relationship with her mother was also difficult.

Participation in learning and school activities

The DHH students' level of participation in classroom activities seemed to be dependent on the extent to which the participants understood the teachers and the lessons. For example, most participants – case 1 (Abeer), case 2 (Faten), case 4 (Sara), case 5 (Arwa), case 6 (Rem), case 8 (Hatan), case 10 (Roaa), and case 11 (Fager) – directly connected their ability to understand their teachers with their level of participation in the classroom. These students could better understand their teachers if they offered good explanations, made use of visual representations, and spoke clearly. Speaking the first focus group, Abeer said:

'There are some teachers who do not give very good explanations, which reduces our ability to participate. The teachers say that we do not participate in their sessions, but actually they do not explain the issues in complete detail'. (Abeer, Focus Group 1)

Faten also criticised some of her teachers because of the way they taught: 'Some teachers do not write on the board as they teach, but then ask me questions about the lesson. However, I have to understand the lesson, if I am to participate' (Faten, Focus Group 1).

Three reasons for this lack of participation in the classroom were put forward by case 3 (Rawia), case 4 (Sara), and case 9 (Lama): the difficulty involved in articulating long sentences; shyness and embarrassment about making mistakes while speaking in the classroom; and a lack of encouragement from general teachers. When asked in the second interview about her lack of participation in the social and religious studies lessons that the researcher

observed, Rawia said: 'I don't want to participate; the words are too long and difficult, and I cannot pronounce them' (Rawia, Interview 2). Lama also indicated that she does not participate in the classroom because teachers do not encourage her to do so. Sara added: 'I don't want to make mistakes' (Sara, Interview 1).

The students with DHH at Al Kauthar very rarely participate in school activities such as presenting poem or songs at national day celebrations and morning broadcasts. The participants offered a variety of reasons for this. Some, such as case 6 (Rem) and case 12 (Munera), reported that they never participated in the school activities because they feel very shy, when appearing in front of the entire school. Fager, on the other hand, said that she has never been invited to participate in school activities, but if her teachers were to invite her to do so, she would be happy to participate. Sara put forward another point, as follows: 'I am afraid that all the hearing school students will laugh if I do not speak clearly enough' (Sara, Interview 1). Rawia was the only case study who said that she frequently participated in school activities such as morning broadcasts and national day celebrations. Rawia said that this was because she was encouraged to get involved by her general teachers due to her clear speaking abilities: 'my speech is clear and other students understand me' (Rawia, Interview 1). She added that the positive reactions displayed by the teachers and students had made her happy.

Difficulties and barriers in the Al Kauthar mainstream school

The participants mentioned a number of difficulties that they experience in the course of their life at Al Kauthar. The most common was academic difficulties, which was discussed by case 1 (Abeer), case 2 (Faten), case 4 (Sara), case 6 (Rem), case 8 (Hatan), case 9 (Lama), case 10 (Roaa), case 11 (Fager), and case 12 (Munera). The participants offered many reasons for this issue; for

example, Sara and Hatan mentioned that some subjects required students to absorb a vast amount of information, 'a lot of things I cannot study or remember' (Sara, Interview 1). Hatan added that some teachers do not teach the material in some subjects effectively, which creates additional difficulties. Munera touches on another reason for these academic difficulties, stating that the general teachers speak too quickly while giving lessons, which makes lessons more difficult than they have to be.

The second difficulty, mentioned by case 4 (Sara), case 6 (Rem) and case 12 (Munera), was the fact that levels of noise and classroom layouts during lessons makes it hard for them to follow classes. This gives rise to frustration for some students with DHH, and can lead to misunderstandings about what general teachers are saying: 'I can usually understand my teacher, but the sounds and disturbance from general students can make it difficult' (Sara, Interview 1). In the focus group, Rem discussed the same problem: 'the general teacher and the hearing students often speak at the same time; how I can understand the lesson like that?' (Rem, Focus Group 1).

The third difficulty is the speech difficulties some DHH students experience in the classroom, along with the negative reactions this can generate among normal-hearing students. When Sara asked why she did not participate much in school activities, she said that her speech difficulties reduced her confidence. In addition, according to Abeer and Faten:

'I make some mistakes in my speech and when I do, that the other students sometimes laugh at me. I don't know why, this has been a problem since I was a child. I just ignore it. However, I only have problems with some letters'. (Abeer, Interview 1)

'If I or another DHH student answers a question, the teacher understands us, but some hearing students laugh. It's very embarrassing'. (Faten, Interview 1)

Finally, Rawia touched on another problem, which is the way students are seated in the classroom. She said that hearing students usually sit in the front rows, which means that she has to sit at the back. The students choose where to sit at the beginning of the academic year, after which it is not possible to move.

Exams and curriculum

Most participants revealed that they did not experience difficulties in their exams, but that they can find it hard to follow their textbooks. They said that the textbooks carry too much information, and that they do not like the way that curricula are taught. Faten offered a number of suggestions as to how teachers could simplify textbooks, and thereby prepare students for their exams:

'If we are taught in the form of questions and answers that are well-arranged and proceed logically, we will understand the course content better. However, if all we do is underline content in our textbooks, we will feel lost and misunderstand things'. (Faten, Interview 1)

Arwa came to a similar conclusion, when she said that she finds her exams much easier if the teacher summarises and underlines the main points in the textbook. Sara commented:

'The exams are easy, but our social subjects are difficult, and there is a lot of information to be learnt. Last year, our specialist teacher, Rana, gave us a summary of the course that made the exam easy, but the textbook makes it difficult'. (Sara, Interview 1).

All the participants stated that the students with DHH take exams at the same time as their hearing peers and have the same time available to complete them. However, Sara said that although students with DHH take the same exams as hearing students, they sometimes complete them after their hearing peers.

Support

The data yielded in the interviews, observations, and focus groups indicate that students with DHH at Al Kauthar receive five different kinds of support: from specialist teachers; from general teachers; from hearing students; in the resource room; and via the individual education plans written by specialist teachers.

Most of the participants stated that the support they receive from their specialist teachers is extremely important. This support comes in a number of formats: in the general classroom, in the resource room, and via individual education plans. The classroom support also comes in various formats. For example, case 1 (Abeer) and case 4 (Sara) said that the specialist teachers support their DHH students by summarising the curriculum and offering help whenever they need it. In addition, case 2 (Faten), case 3 (Rawia), case 8 (Hatan), case 9 (Lama), case 10 (Roaa), case 11 (Fager) and case 12 (Munera) reported that they will not understand a lesson without the support of their specialist teacher. Rawia added that this is due to the fact that the specialist teachers explain what the general teachers have said in a more simple way. Roaa added that the presence of specialist teachers in general classrooms 'is important, in case if we miss something that has been said' (Roaa, Interview 2).

Case 3 (Rawia), case 4 (Sara), case 5 (Arwa), case 6 (Rem), case 7 (Maram), case 9 (Lama), and case 12 (Munera) touch on the support that specialist teachers offer in the resource room, stating that this approach helps

them to understand the course material being covered in the general classroom. Lama added: 'In the resource room, I understand the special teacher better because she focuses on us' (Lama, Interview 1).

Another type of supported offered by the specialist teachers is the individual education plans that they make for DHH students that address their unique learning issues, and include specific educational goals. Most of the students canvassed in his paper stated that they did not require an individual education plan, while they also have the option of individual short lessons, if required. Rem is the only participant who has been given an individual learning plan, but states that she prefers to remain with her colleagues because she feels shy when alone with her specialist teacher.

Only three participants mentioned the type of support that they receive from general teachers at Al Kauthar. For example, Arwa said: 'If we are assigned homework or exams, the general teacher comes to tell us about it, and sometimes asks our hearing peers to inform us' (Arwa, Interview 1). Rem and Hatan also said that general teachers summarise lessons on the board, and make use of technology such as projectors to complement the lesson with clear points and colourful pictures, which helps them to enjoy and understand the content. Hatan added: 'also It would be even easier for us if the general teacher wrote out the content on the board, including questions and answers' (Hatan, Interview 1).

Some participants offered suggestions as to how general teachers can offer better support. According to Maram and Roaa, they find it very useful when their general teachers raise their voices and speak more clearly because it is easier to hear and understand them. Munera stated: 'She makes sure she looks at all of the students in the classroom, and writes out concepts on the board to give us

DHH students a chance to absorb the information more easily' (Munera, Interview 1).

The final type of support mentioned by participants is the help they receive from their hearing peers. For example, Abeer said that hearing students at Al Kauthar give her the most support when she needs help, while Roaa said that her hearing peers are cooperative, and sometimes offer support, without her having asked them to do so. Faten, Rem, and Hatan stated that they do not hesitate to ask their hearing peers for help in some classroom situations. Faten said, 'one of my hearing peers cooperates quickly and supports me when I ask her, for example, if there is any homework, or what the teacher said.' (Fateen, Interview 1).

5.5 Conclusion

This chapter analysed and presented the findings derived from the 12 students with DHH who participated in the study. The first part presented the findings for each case, initially laying out demographic information, and then proceeding according to the themes that are most relevant in each case. In the second part of the chapter, a cross-case analysis was conducted to draw together the key findings from all cases under each theme.

The data analysis revealed that the majority of participants have positive attitudes toward their mainstream school because school is conducted via the medium of oral speech; this is not the case in deaf institutes, where the main method of communication is sign language. However, some participants said that they would prefer to study at a deaf institute because their peers and teachers would employ sign language, which would make it easier to follow general communication and academic lessons.

In addition, the findings revealed that the majority of participants feel happy attending a mainstream school, despite their academic and speech difficulties. The ability to form positive relationships with their peers depends on four main factors: the personal characteristics of the students with DHH; the acceptance displayed by their hearing peers; technology and social media support; and the DHH students' speech skills. Furthermore, the limited interactions and friendships the DHH students have with their hearing peers can be attributed to the quietness, shyness, and embarrassment they feel due to the limited understanding displayed by their general teachers and hearing peers.

With regards to classroom participation, the data show that general teachers play an important role in encouraging student participation, which can be increased if the teachers speak loudly and clearly, if they complement lessons with visual representation, and if they directly encourage students with DHH to participate. Again, however, students' individual character play a significant role in the extent and nature of their participation. The findings also reveal that the majority of participants experience academic difficulties at Al Kauthar, and that these difficulties are mostly the result of the huge amount of information that they need to absorb to pass their exams. Furthermore, the findings reveal the importance of the support provided by specialist teachers, and the participants suggested various ways in which general teachers can improve their teaching and support. Another finding is that most participants also obtain valuable support from their hearing peers in the classroom.

In order to fully understand the participants' experiences and perceptions, it is necessary to come to a more holistic view of these findings via an in-depth reading of educators' responses. This being so, in the next chapter, I will discuss the data based on this approach.

Chapter Six: Discussion

6.1 Introduction

As discussed in the literature review, there has been a great deal of interest in the last three decades regarding the inclusion of students with DHH and other groups with disabilities in the mainstream education system in Saudi Arabia, and it has therefore become increasingly important to explore the experiences and perspectives of these students with regard to the inclusive setting in order to understand and improve the country's system of education. As Fitch (2003, p.234) has written, 'Understanding students' experiences of inclusion and exclusion within specific school and ideological contexts over time bring to light certain "facts" and questions that might otherwise have remained obscure.' This study examines the experiences and reports the voices of female students with DHH at Al Kauthar mainstream secondary school in Saudi Arabia to better understand how these students' DHH status impacts their perceptions of their school experiences in the inclusive setting, both socially and academically.

As indicated in chapter five, ten salient themes emerged from the various data sources of students and teachers. Following on from this, in this chapter, I have grouped some themes together under main headings, depending on my perspective of the themes' convergence, based on the literature, the findings, and my interpretation. The complex association between the themes in this study are presented in figure 2 , which indicates that academic inclusion, social inclusion, and the existence of a positive attitude towards this inclusivity leads to a sense of belonging among students with DHH.

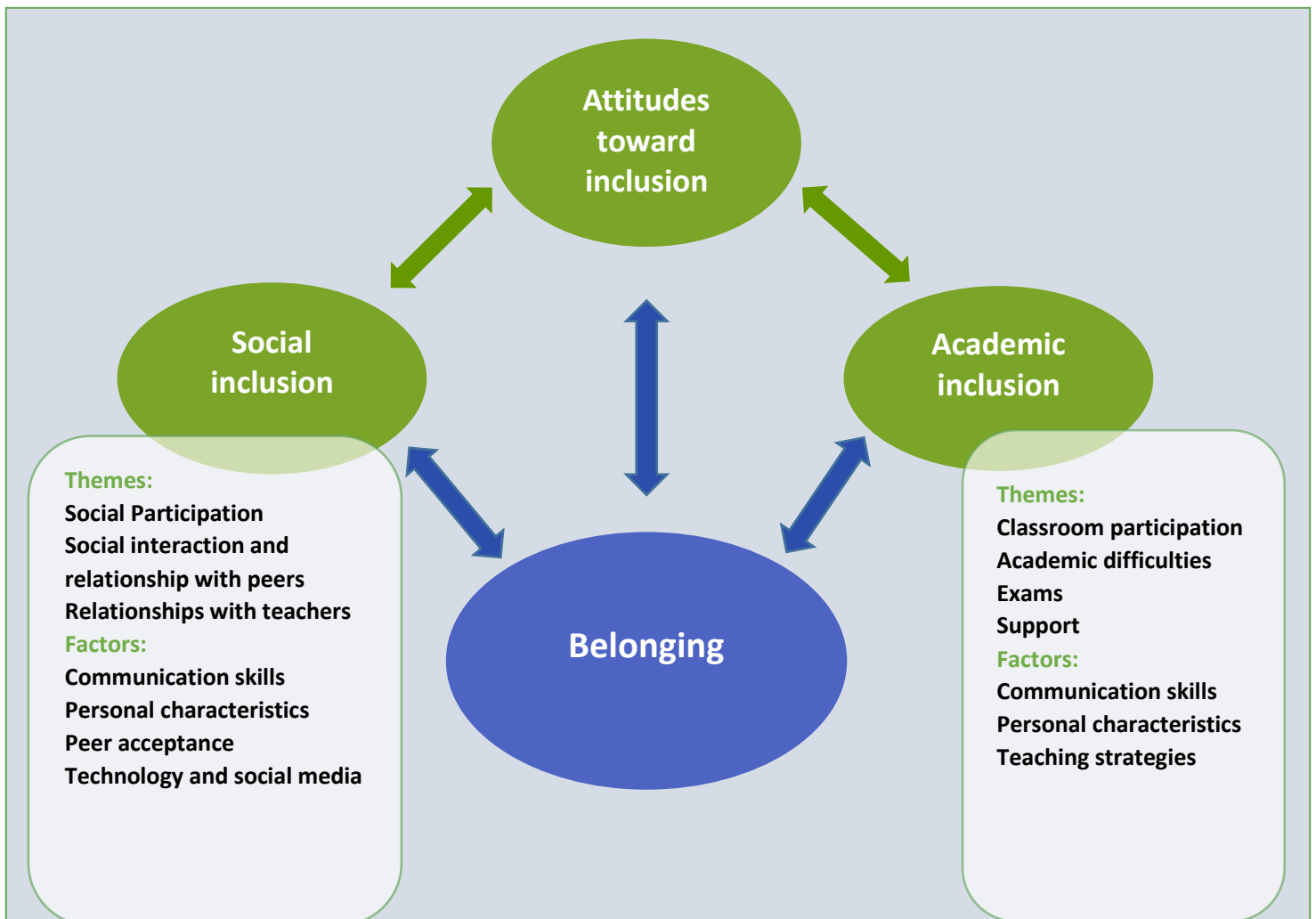


Figure 2: The association between themes

Against this background, the following discussion will be organised based on four main headings: **Attitudes towards inclusion; academic inclusion; social inclusion; and a sense of belonging in the inclusive setting.**

6.2 Attitudes towards inclusion

When I employ the term ‘attitude’ in this study, I mean ‘a disposition to respond favourably or unfavourably to an object, person, institution, or event’ (Ajzen, 2005, p. 3), and the participants with DHH attitudes towards inclusion

revealed whether or not they were supportive of this notion. A key finding of the current study is connected to the participants' attitude toward oral language and how this relates to inclusion. The majority of participants (eight of the 12 students with DHH) showed positive perspectives with regard to oral language and speaking and exhibited a generally positive attitude towards their school; they stated that overall, they feel happy in their school, and prefer to study in a mainstream school, compared to the alternatives. The other four participants, however, stated that they prefer to use sign language than oral language in their daily studies and communication, and therefore display a somewhat less positive attitude towards inclusion in terms of placement, and are more supportive of studying in a separate 'Deaf Institute.'

This is an interesting finding, and to explain its significance, it should be compared to other studies' findings concerning students with DHH attitudes toward academic inclusion. As noted in the literature review, few studies have specifically explored students with DHH attitudes towards inclusion. One interesting study where the findings correspond with those of this study was conducted in England by Jarvis, Sinka and Lantaffi (2002); it examined the experiences of 83 Key Stage 3 students via one-to-one interviews and focus groups. A total of 61 of the students were deaf (with a severity ranging from moderate to profound hearing loss), and 22 were hearing. The deaf participants in Jarvis et al.'s (2002) study were free to choose their mode of communication in the interviews and focus group, with 27 choosing to sign, and 34 to orally communicate. The study found that the deaf students appreciated being in an inclusive academic environment because it offered them access to both hearing and deaf students. This does not necessarily demonstrate a relationship between the mode of communication and the participants' attitudes, but rather the

significance of identity for deaf students placed in an inclusive setting. Students with DHH sense of identity may be a reason why some participants in the present study prefer to use sign language in their education, and that not all students with DHH in this study who prefer to use sign language hold negative attitudes towards inclusion.

The results obtained by Angelides and Aravi (2007) also coincide with the experiences and attitudes reported by the young women who participated in the present study. These authors compared the views and experiences of students with DHH who had graduated from specialist and mainstream schools in Cyprus with previous research indicating that Cypriot students with DHH consider mainstream settings to offer the best-quality education, despite the fact that an analysis of their attendance records revealed a significant degree of marginalisation. However, Angelides and Aravi (2007) did not link the participants' with DHH preferred mode of communication with their attitudes toward inclusion, as this study has done, and therefore they do not touch on the possible link between preferred mode of communication and attitudes toward inclusion.

The findings of a study conducted by Lambropoulou (1997) in the Greek context and a quantitative study by Olsson, Dag and Kullberg (2018) in Sweden contradict those of the present study. Lambropoulou (1997) examined the experiences of Greek students with DHH who graduated from both mainstream and specialist DHH schools, and found that the participants reported generally negative experiences in mainstream schools. Olsson et al. (2018) found that both male and female students with DHH attending a specialist DHH school reported a higher level of satisfaction with their lives in general, and appeared to feel more included both academically and socially, than their counterparts who attended

mainstream schools. Nevertheless, both Lambropoulou (1997) and Olsson et al. (2018) examined the general experiences of students with DHH, which is different to the approach taken by Ajzen (2005), which means that while their participants reported negative experience in the inclusive setting, they did not necessarily prefer specialist schools for deaf students. For instance, the participants in Angelides and Aravi (2007) stated that the mainstream setting offered them the best education, despite the fact that they also reported negative experiences.

An analysis of the data shows that the young women who participated in the present study who prefer to use sign language and favour specialist schools have certain reasons for these opinions (see chapter five, the cross cases, attitudes towards speech versus sign language, and the different settings), which usually stem from academic life in the inclusive and special settings, respectively. For example, the students with DHH appreciate the specialist support they receive from teachers and the ability to use sign language in specialist schools, which may mean that they are especially concerned about their academic achievements and experiences in inclusive settings. On the other hand, most of the young women who participated in the present study indicated that they prefer to attend an inclusive school so as to be able to participate in a hearing student community, and thereby improve their speaking skills. This seems to show that they are more interested in this regard in their social experiences with peers, and that some students with DHH may prefer inclusion chiefly in order to join a community of hearing peers (Doherty, 2012; Powell, Hyde, & Punch, 2014); however, this does not necessarily indicate that they have exclusively positive experiences in mainstream schools. In addition, their interest in speech might also be because they know it will help them academically.

Based on the findings of this study and those of other relevant research into students with DHH preferred educational setting, it can be concluded that there is no universal agreement about students with DHH attitudes concerning which setting is generally preferred. This being so, it seems that there is a need for mainstream schools to be given the facilities to encompass students with DHH (Cigman, 2007a), as well as for alternative forms of educational provision to remain an option. This position is supported by Warnock (2005), who states that inclusion is not necessarily the best solution for everyone, and rejects the 'all children under the same roof' approach (Terzi, 2010, p.126). According to Takala and Sume (2018), students with DHH do not always favour attending mainstream schools, while Doherty (2012) and Powell et al. (2014) have reported that students with DHH who mostly use sign language in the course of their daily communication tend to prefer to attend specialist schools, where they can study alongside their signing peers. Doherty (2012) and Powell et al. (2014) asserts that this is the case because when signing students attend mainstream schools with hearing students, they are at risk of developing feelings of loneliness, if there is no culture of signing at their school. However, the participants in Doherty's (2012) study were students with DHH who had graduated from a DHH specialist school and did not have any experience with the mainstream setting, while all the young women who took part in the present study have been educated in mainstream schools, and most have never attended a specialist school for students with DHH .

Some studies in this field do not directly conclude whether their participants have had positive or negative experiences, or even touch on their preferences towards mainstream or specialist classrooms, given that many participants reveal a mix of positive and negative perspectives. For example, a

study conducted in the United States by Richardson, Marschark, Sarchet and Sepere (2010) that compared the experiences of students with DHH in mainstream and specialist classrooms found that students with DHH in the latter spoke more positively about instructor feedback, their workload, and the academic choices they were able to make, while those in the former students were positive about the nature of their interactions with their instructors, stating that they accepted flexibility in the methods of assessment they employed, and focused on teaching analytical skills, rather than rote memorisation.

The findings in the literature indicate that students with DHH do not show uniformly positive or negative experiences and attitudes towards their schooling, which is similar to the findings of this study, but of course, their perspectives tend to differ, depending on the issue at hand. In this study students with DHH attitudes vary, based on the many factors that can affect their particular situations; for example, both their social and academic experiences may affect their attitudes towards the notion of inclusion in mainstream schools. According to McMahon, Keys, Berardi, Crouch, & Coker (2016), a student with a disability can only be considered 'included' in a mainstream school if both the aspects of social and academic inclusion have been satisfied (Olsson et al., 2018). The next section will discuss the practice of academic inclusion.

6.3 Academic inclusion

'Academic inclusion' is defined as the practices that enable students with disabilities to fully participate in academic activities with all other students (McMahon et al., 2016); this means taking part in classroom discussions and other academic activities at school, as well as receiving appropriate academic support to achieve academic success in the inclusive setting (Olsson et al., 2018). Four main themes were uncovered under this heading: participation in the

classroom; barriers and difficulties in the classroom; exams and assessments; and support (see Figure 3).

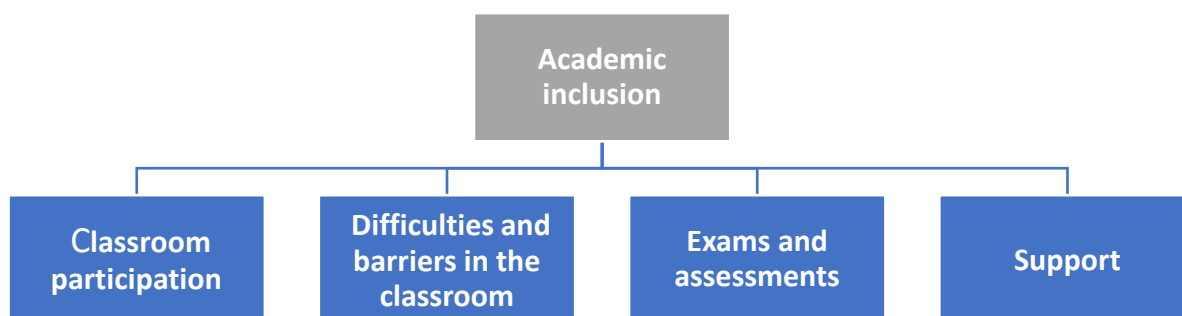


Figure 3: The main themes to emerge in the field 'academic inclusion'

6.3.1 Classroom participation for students with DHH

Classroom participation is closely connected to the notion of academic inclusion, and refers to students' ability to take part in classroom activities and discussions (Olsson et al., 2018), that are acknowledged as significant components of academic success (Tinto, 1993). A reflective study by Stinson, Liu, Sau and Long (1996), based on interviews with adults with DHH who were educated in inclusive settings, revealed that of the several factors that contributed to their inclusion in mainstream schools, it was classroom participation that had left the strongest impression in their memories. The ability to actively and fully participate in classroom instruction by students with DHH is a major concern expressed by researchers because of their communication difficulties (Garrison, Long, & Stinson, 1994; Saur, Layne, Hurley, & Opton, 1986).

As indicated before, based on my previous experiences as a teacher at an inclusive school in Saudi Arabia, I can report that a common feature of Saudi

classrooms is for teachers to ask questions, and for students to volunteer to answer by raising their hands, whether as individuals or as part of a group. Other aspects of participation in the Saudi context are volunteering to take part in classroom activities, and responding to teachers' instructions, and according to these common features of classroom participation, teachers assess their students in their monthly reports (grades for participation).

The findings of this study provided a range of evidence about classroom participation (see Figure 4) that indicates that general teachers played an important role in enabling student participation, which could be increased by teachers' employment of a clear voice and speech, use of visual representation, and through encouragement of students. This suggests that the teacher may be an important factor enabling students with DHH to participate in the classroom. The findings around difficulties in participation are consistent with the findings of Stinson et al. (1996), although their findings are broader and give greater detail; they interviewed 50 DHH college students at the National Technical Institute for the Deaf in United State and reported that regardless of the preferred mode (oral or sign language), all students with DHH perceived classroom communication to be a challenge. These difficulties included a lack of clarity of speech in the classroom; a lack of topic coherence; a rapid rate of discussion and change in topic; rapid variation in the students who talk; a high number of speakers involved in discussions; and more than one student speaking at the same time.

It can be seen that the most effective teachers are those who succeed in increasing the classroom participation of their students with DHH (Marschark, Lang and Albertini, 2002). Teachers' instructions should be accessible to all students; Marschark and Spencer (2015) argue that if students with DHH do not have access to their teacher's classroom instructions, they are much less likely

to be able to productively contribute to lessons. According to Marschark and Spencer (2015), these instructions take the form of ‘instructional strategies and classroom management techniques’ (p.61), and they are only accessible by students with DHH if they can perceive and comprehend the language being used. This is in line with the findings of the present study, that the participants preferred it when the teachers used a clear voice and style of speech, while teaching and giving instructions in general classrooms.

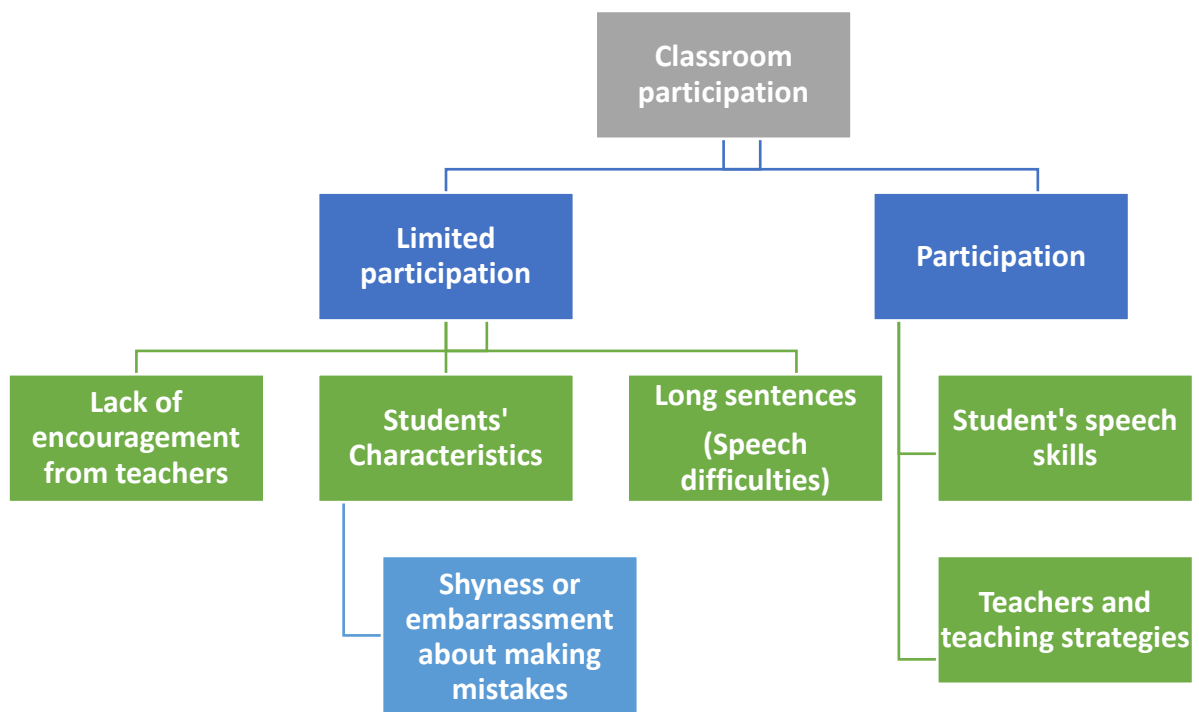


Figure 4: Classroom participation

Students with DHH ability to engage in mainstream classroom activities (such as answering teachers’ questions, or getting involved in group discussions) can differ, depending on the level of their hearing. The young women who participated in the present study are mostly taught by general teachers who are usually less familiar with deafness and students with DHH than specialist

teachers; the latter are far more likely to be more aware of the needs of students with DHH and how they differ from their hearing peers, given their workplace experiences (Marcscharck et al., 2011). This may affect their classroom interactions with students with DHH, and therefore limit the latter's participation. A classroom in which students with DHH find it difficult to participate can, according to Saur et al. (1986), lead to 'an island of deafness ... where hearing-impaired students appear passive and unresponsive' (p.327). Stinson and Lie (1999) suggest that one prominent issue that limits students with DHH classroom participation is teachers' unfamiliarity with deafness; one of the participants in the present study stated that she did not usually answer questions in class because she preferred not to speak in long sentences, given that a general teacher may not understand her. Strassman (1997) find out that students with DHH are typically less accurate in their language comprehension and ability to learn tasks than their hearing peers.

Further studies have shown that both oral and signing students with DHH generally arrive in mainstream classrooms equipped with less content knowledge than their hearing peers (Marschark et al., 2008), and consequently often have difficulties following the mainstream curriculum, making any general comparison with their hearing peers unfair. According to Marschark et al. (2011), students with DHH demonstrate less ability to apply their knowledge to new situations in which it might be necessary or useful and as a result, they are less likely to participate in the classroom or answer teachers' questions, given that they may not be able to quickly establish connections between concepts, or between what they are learning and what they already know. Students with DHH are better positioned to fully participate and feel that they belong in the mainstream classroom if their teachers are more aware of the nature of deafness, and these

students' particular needs and abilities. Marschark et al., (2008) found that if students with DHH are taught in mainstream classrooms by teachers with knowledge of and experience with hearing impairments, students with DHH can achieve and learn as much as their hearing peers; with such knowledge, Marschark et al., (2011) suggest, teachers can develop materials and instructional methods that develop the cognitive strengths of students with DHH , at the same time as accommodating their particular abilities and special needs.

As indicated in chapter five, the students with DHH who participated in the present study reported that they were not always able to engage in classroom discussions, as a result of the following factors: speech difficulties; shyness or embarrassment about making mistakes in the classroom; and a lack of encouragement from general teachers (see Figure 4). These factors will be discussed in more detail in this chapter.

6.3.2 Difficulties and barriers in mainstream schools

The interviews with the young women who participated in the current study, as well as their teachers, suggest that the students with DHH experience three main types of difficulties and barriers that limit their learning in the mainstream educational setting: environmental barriers; negative attitudes on the part of hearing students; and academic difficulties (see Figure 5).

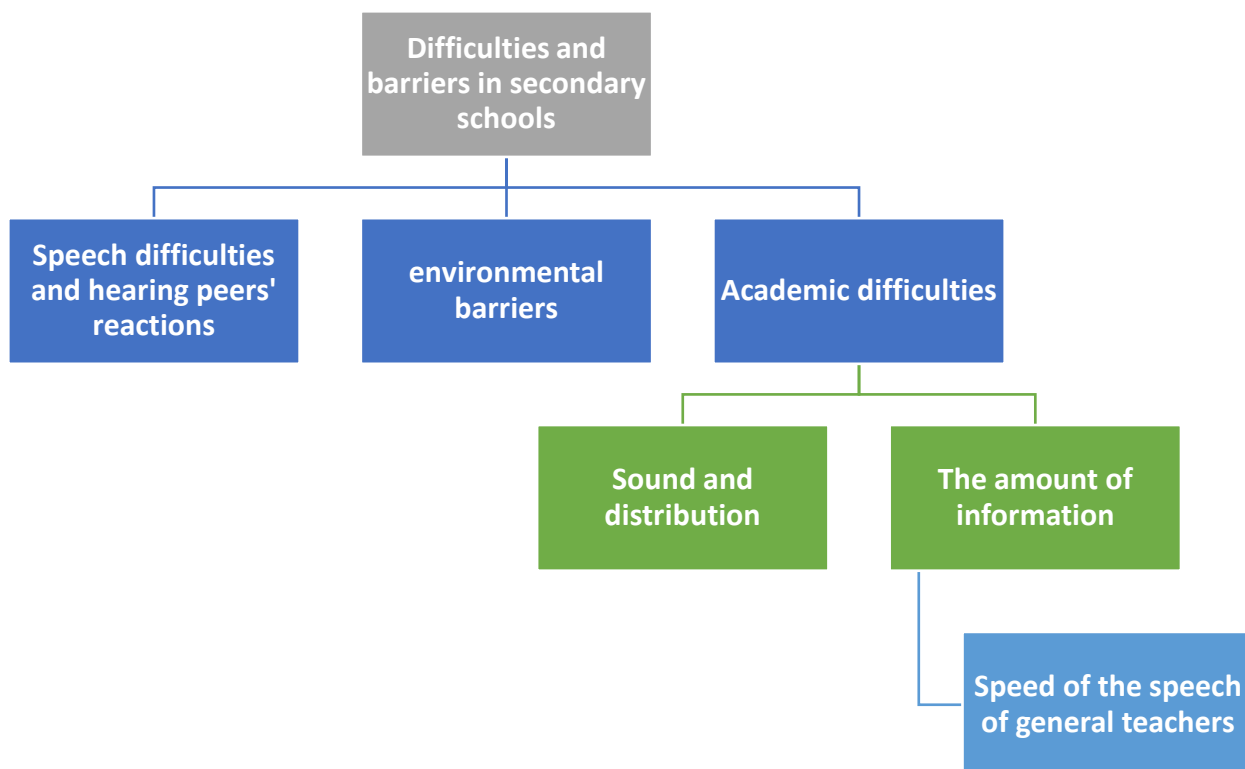


Figure 5: Difficulties and barriers students with DHH face in mainstream schools

As stated in chapter five, some participants in the present study stated that the noise produced by hearing students, the latter's physical distribution in the classroom, and poor seating arrangements made it hard for them to follow lessons. This matches the findings of Guardino and Antia (2012), who examined the effects of physical modifications in the classroom on disruptive behaviour and academic engagement among students with DHH in self-contained classrooms. The authors modified three classrooms in a specialist DHH school and implemented changes in areas such as seating arrangements, visual stimulation, classroom organisation, and acoustic quality, and observed a functional relationship between the physical environment and both less disruptive behaviour and greater academic engagement. Guardino and Fullerton (2010) have stated that the physical features of the classroom such as organisation, lighting, and seating arrangements can induce students to pay more attention to academic

tasks and improve their behaviour, while Doyle and Dye (2002) have found that the level and type of noise and lighting in a classroom impacts students with DHH ability to hear their teacher and access visual information. Similarly, Antia, Jones, Reed, & Kreimeyer (2009) have claimed that poor classroom listening conditions can create considerable difficulties for students with DHH, reducing their access to academic content and limiting their participation in the classroom. Students with DHH are often very sensitive to noise due to their use of hearing aids; this is the case for all the young women in the present study. Doyle and Dye (2002, p.21) state that 'hearing aids do not distinguish between speech and noise as a normal ear does, and cannot "tune out" much of what a child does not want to hear.' They continue: 'Although hearing aids are good in one-on-one and small group situations, they also amplify all sounds, including background noise' (p. 21). Jarvis et al. (2003) found that classroom noise can be magnified by hearing aids, causing loud and often painful noises for students with DHH; these same authors argue that how teachers respond to such situations depends on their expertise, which can include knowledge of deafness and its possible consequences. For example, some general teachers in the classroom demonstrate a good understanding of the issues faced by students with DHH, and seek to manage noise levels in the classroom so as to create conditions that are beneficial for students who use equipment such as hearing aids (Jarvis et al., 2003).

Levels of noise and poor seating arrangements can be explained by the effect of the large number of students in the general Saudi classroom, which may reduce teachers' ability to manage the classroom, and limit noise. Shield and Dockrell (2004) carried out a study in schools in London, UK that examined the typical levels and sources of the noise to which children are exposed at school.

The authors conducted detailed internal noise surveys and observations in 140 classrooms in 16 schools, and found a significant correlation between class size and background noise. As Doyle and Dye (2002) have stated, noise levels can impact students with DHH ability to hear their teacher and access visual information, and for that reason, researchers have noted that teachers in general classrooms can usefully employ tools such as assistive listening devices, FM systems, and desktop speakers. FM systems send signals from teachers' microphones directly to students' hearing aids (Larsen & Blair, 2008; Crandell, Smaldino, & Flexer, 1997).

One participant in the present study, Rawia, touched on the issue of seating in the classroom; she said that hearing students usually sit in the front rows, forcing her to sit at the back, affecting the extent to which she can follow the lesson. General and specialist teachers have a responsibility to make sure that students with DHH in their classrooms are seated in appropriate locations so as to ensure that they can follow the lesson. Eriks-Brophy, Durieux-Smith, Olds, Fitzpatrick, Duquette, & Whittingham, (2006) reported on the importance of seating and classroom arrangements for students with DHH, and ensuring that they can see their teachers' and peers' facial expressions and hand gestures. An appropriate position in the classroom facilitates the lip-reading abilities of students with DHH who possess that advantage (Eriks-Brophy et al., 2006; Schultz, Lieberman, Ellis & Hilgenbrinck, 2013).

The second barrier to learning and lesson involvement discussed by some of the young women who participated in the present study was negative reactions by hearing students, when students with DHH make a speech mistake. This finding corresponds with Salend (1998), who stated that hearing students play an important role in the inclusive setting, given that their attitudes affect students

with DHH ability to learn (Salend, 1998). According to O'Connor and Jenkins (1996), one critical component of the attitudes of hearing peers may be whether they genuinely want to include all students in classroom activities. Hung and Paul (2006) investigated 241 hearing students' attitudes towards their peers with DHH in mainstream secondary educational settings, and found that students who had more contact and closer relationships with peers with DHH displayed more positive attitudes towards the concept of inclusion. Most of the young women who participated in the present study had had prior contact with their hearing peers, given that most of them attended the same school – and even studied in the same classroom – in the previous year.

The third barrier reported by the young women who participated in the present study is that of general academic difficulties in the general classrooms. This finding is in line with previous research that has explored individuals with DHH experiences in both general and specialist academic settings (Angelides and Aravi, 2007; Doherty 2012), and has found that students with DHH in mainstream classrooms received little support and did not enjoy the benefit of curricular modifications, and therefore, participated minimally in class. In addition, such students tend to perceive inclusive schools as more challenging than specialist schools for deaf people, given the higher demands and richer curriculum, which they believe contributes to a higher level of academic achievements (Angelides and Aravi, 2007). The latter two authors reported that it can be challenging for students with DHH to undertake tasks and follow sessions, and that they often require additional time to study at home, whether alone or with tutors, to compensate for this.

The participants in this study stated that the curriculum they followed obliged them to study and memorise a huge amount of knowledge; all schools

across Saudi Arabia, whether they be mainstream or specialist DHH, follow the same curriculum, and teachers are unable to make it more accessible for any reason. In addition, many textbooks in the kingdom contain insufficient visual illustrations for students with DHH to follow teaching sessions. Angelides (2004) argues that policymakers should rethink and reconsider curriculum content to help all students meet targets and standards; if teachers appropriately adapt a curriculum, students with DHH may feel more confident that they are progressing sufficiently, which may boost their experience of academic and social inclusion. On the other hand, an excessively difficult curriculum may cause students with DHH to experience feelings of failure, if they are unable to maintain the same academic pace as their hearing peers. It seems problematic that all teachers in Saudi Arabia are obliged to follow the same curriculum, with neither specialist nor general teachers having the power to modify it, given that Mulat, Lehtomäki and Savolainen (2018), who examine the transition of students with DHH and hearing students from the first Grade 4 to Grade 5 of primary education in Ethiopia, have suggested that specialist and general classroom teachers work together to modify their classroom practices so as to promote academic and social inclusion for students with DHH.

Most students who participated in the present study showed strong academic results for the previous year; certain first-year students finished the curriculum for the second year in secondary school, as discussed in chapter five, which conflicts with their statement that they experienced academic difficulties. One possible reason for this high level of achievement is that students with DHH have access to additional support from their teachers in exams. In addition, the participants with DHH may be assessing their academic difficulties according to

their ability to understand what was going on in the classroom rather than their overall attainment.

6.3.3 Exams and assessments

As mentioned previously, most students who participated in the present study performed well academically in the previous year, and were able to complete their exams without difficulty. Most participants stated that they do not experience difficulties in their exams in general, but nevertheless do find the academic curriculum challenging. The high academic achievement of the young women in the present study contrasts with the findings of numerous studies into students with DHH that have been conducted over the last 40 years (Hrastinski & Wibur, 2016). For example, a study in United State indicated that students with DHH achieve significantly lower academic results than their hearing peers (Qi & Mitchell, 2012), reducing their opportunities to enrol at postsecondary education institutions (Garberoglio, Cawthon & Bond, 2014). This state of affairs could be due to the lack of additional support that students with DHH receive in mainstream schools (Angelides and Aravi, 2007). Differently, however, the young women in the present study indicated that they sometimes receive additional support from teachers in their exams, such as being given summaries of curricula and textbooks. This additional support is not offered to hearing students, which may serve to explain the surprisingly strong academic achievement of this group of students with DHH. The participants with DHH in this study also had mild to moderate hearing loss, which may also explain the reason of the high academic achievement that may not the situation in the other studies.

As mentioned previously, the second-year students who participated in the present study reported lower academic achievement (in the preivuous year, year

1) than their counterparts in years one or three. This could be due to the fact that these students were in the first grade of secondary school, which is the first year following completion of middle school, and such students encounter a number of subjects they have never studied previously, especially in the realm of science.

6.3.4 Support

Students with disabilities in mainstream schools who receive some form of additional support from general and specialist teachers tend to develop better academic skills and have more motivation to learn (Fraire, Longobardi, Prino, Sclavo, & Settanni 2013), in addition to experiencing more positive emotional and social well-being (Longobardi, Prino, Marengo & Settanni, 2016), than their counterparts who do not receive such support. The theme of support examined in the present study gave rise to interesting data concerning the type of special educational support received and/or mentioned by the study group of young women with DHH attending the Al Kauthar inclusive school, with a variety of experiences emerging from their comments and the classroom observations. The participants mentioned receiving three main forms of human support: from their general teachers; from their specialist teachers; and from hearing students at the school. The majority of the participants in the present study reported receiving all three types of support (see Figure 6).

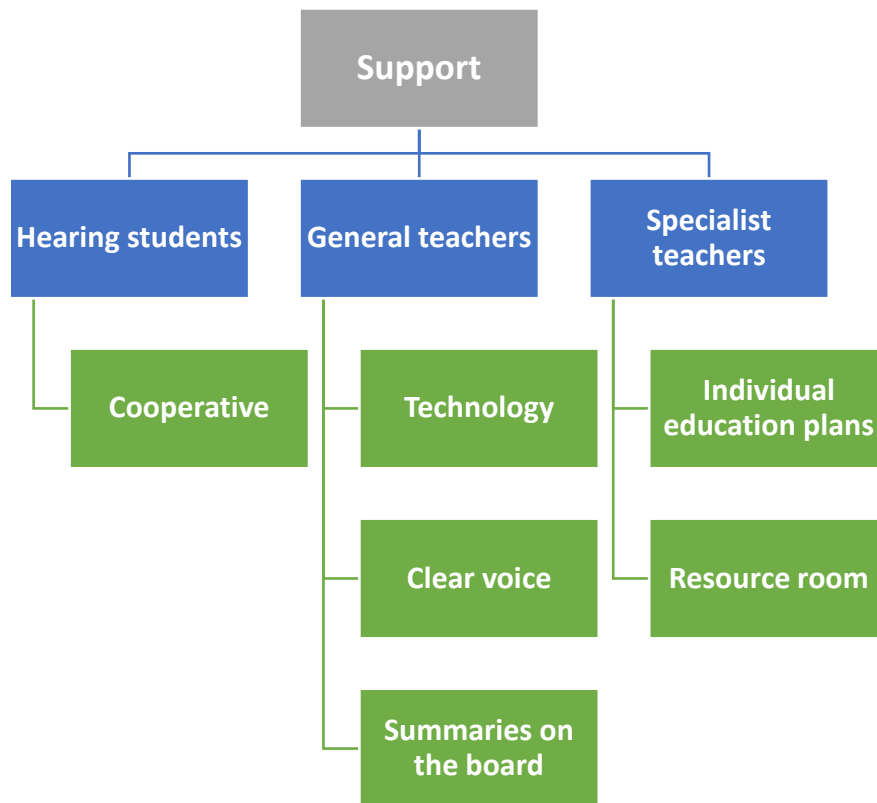


Figure 6: Support students with DHH in mainstream schools

According to Lomazzi, Borisch and Laaser (2014), inclusion entails that all students are able to study at the same school, and to make this a reality, some students may require additional support services. DHH students are viewed as having special needs and consequently, can be said to require additional support for a number of purposes: to learn alongside their hearing peers; to access and progress in a general curriculum; and to feel a sense of belonging to their mainstream school. Jarvis (2002) has written that for students with DHH to be successfully included in a mainstream school, they need to be provided with accessible instruction, which includes adapting the teaching and learning context appropriately, training all staff, developing policies to support students with DHH, and promoting positive interactions with hearing peers. Gibb, Tunbridge, Chua & Frederickson (2007) have stated that one important factor that enables students with DHH to feel included in the mainstream setting is the support they receive

from teachers and other school staff; they report that the receipt of additional support in mainstream classrooms is extremely beneficial for students with DHH, both socially and academically.

The participants in this study mentioned that they received many types of support from their specialist teachers, general teachers, and hearing peers, but also revealed that in many lessons, they were dependent on specialist teachers, who only attend classes when asked to do so by general teachers. This ties in with Cook, Tankersley, Cook & Landrum (2000), who reported that general teachers tend not to take the needs of their special educational students into account, and often do not know how best to teach them. As a result, general teachers in this study may leave it entirely up to set specialist teachers to support students with DHH, especially in the sessions that include both general and special teachers. This can be attributed to a number of causes. First of all, general teachers typically have little knowledge of and experience with students with DHH; according to Takala and Sume (2018), general teachers provide an insufficient level of support to students with DHH because they have little experience teaching them. Furthermore, Antia, Stinson and Gaustad (2002) argue that general teachers 'might have low academic and behavioural expectations for students with DHH because they see them as "special" and consequently may ignore misbehaviour and missed homework' (p.220). General teachers in Saudi Arabia are not required to complete any compulsory training in how to teach students with DHH, which could go some way to explain the reason why students with DHH report being dependent on their specialist teachers. One study conducted in the USA even found that specialist DHH teachers in specialist DHH schools often lack the requisite training to meet and knowledge of their DHH students' needs (Kelly, Lang & Pagliaro, 2003), indicating that general teachers

can hardly be expected to be familiar with the specific requirements of students with DHH. Other studies also reveal that both general and specialist teachers struggle to provide support to help students with DHH access and progress in a general curriculum (Lee, Wehmeyer, Soukup & Palmer, 2010; Soukup, Wehmeyer, Bashinski & Bovaird, 2007).

A second possible reason why general teachers provide inadequate levels of support, even when specialist teachers are present, could be due to misunderstandings of the roles both teachers have in the classroom, and a lack of joint cooperation and planning before and during lessons. Fuchs, Fuchs and Stecker (2010) have stated that inclusive classrooms are most effective when general and specialist teachers collaboratively implement, design, and evaluate the outcomes of instruction in the classroom.

According to Morningstar, Shogren, Lee and Born (2015), all students with DHH require some individual adjustments in teaching and extra support to learn everything that is required of them. This leads on to the third reason for the little support provided by general teachers, compared to their specialist counterparts: their belief that specialist teachers, if available, are solely responsible for any students with DHH present. This may explain why Fateen (see the second case in chapter five) said that she received sufficient support from her general teachers in a primary school that had no specialist teachers; differently, when asked about the support she received in Al Kauthar secondary school, the same student mentioned only receiving support from specialist teachers. In addition, the common presence of a large number of students in Saudi general classrooms could make it more difficult for general teachers to individually support and focus on all students, including students with DHH. NASUWT (2018) has touched on four reasons why limitations on class size should be considered: because this

approach will 'have a positive impact on learning'; it will 'provide support for efforts to reduce teachers' workload'; such approaches 'are valued by parents'; and it can 'help keep learners and staff safe.'

The fourth reason why general teachers do not provide enough support is that in some situations, students with DHH will be need to use sign language with specialist teachers; understandably, general teachers do not possess the skills to communicate in this way, and this can be taken to explain the dependence some students with DHH have on specialist teachers. Takala and Sume (2016) state that it is important to ensure that sign-language users have the right to use signing in the classroom, when needed. However, this is usually only useful when there is a specialist teacher or interpreter in the classroom. In this study, specialist teachers were found to attend most lessons with their students with DHH, and use sign language to support them. This support offered by special teachers will be explained in more detail later in this chapter.

According to Evans, Townsend, Duchnowski & Hocutt (1996), effective inclusion requires a major rethinking of the roles and responsibilities of specialist and general teachers, respectively. One study that investigated the inclusive setting in Australia reported limited role descriptions for both types of teacher in most Australian states (Hyde & Power, 2004, p.92). This is similar to the situation in Saudi Arabia, where the roles of specialist and general teachers are not clearly outlined; however, based on this researcher's observations of classrooms at the Al Kauthar mainstream secondary school, it was apparent that when both teachers were present, it was the general teacher who led the classroom and planned and ran the teaching session as a whole, while specialist teachers attended most lessons but not all, and their role and responsibility was restricted to providing support for students with DHH. This finding is in line with Antia

(1999), who investigated the role of specialist teachers in an inclusive school, reporting that general classroom teachers had the primary responsibility for the education of all students in their classroom, including students with DHH.

Specialist teachers in Saudi Arabia are able to withdraw students with DHH as a group or individually from the classroom to focus on specific skills or difficult subjects, which was observed in the present study. Antia et al. (2002) write that such an approach is only likely to be effective if the main classroom and specialist teachers collaborate, and to this end, some specialist teachers in this study seek to plan sessions alongside those of general teachers. According to Pugach and Johnson (1989), when specialist teachers work alongside general teachers in the mainstream classroom, they typically assume the role of a consultant expert, sharing information about individuals with DHH needs with general teachers. At the Al Kauthar mainstream secondary school, both general and specialist teachers seem to have their own ways of providing support in the classroom, while outside the formal lesson structure, only specialist teachers provided support to students with DHH. In the next section, I will discuss the support provided to students with DHH at the Al Kauthar School by general teachers, specialist teachers, and hearing students, respectively.

Support from general teachers

As mentioned in the previous section, general teachers at Al Kauthar lead the classroom, as well as plan and run each lesson, while specialist teachers attend some sessions and provide support to students with DHH only. The findings of this study reveal that general teachers at the Al Kauthar mainstream secondary school often do not offer what the students consider to be sufficient support, and some of the student participants offered suggestions concerning

how this support could be improved. This finding corroborates other research, which has found that students with DHH who have been included in a general classroom setting often state that they require more support than they receive (Lavikainen, 2014; Slobodzian, 2009; Vermeulen, Raeve, Langereis & Snik, 2012). According to Takala and Sume (2018), some general teachers provide inadequate levels of support because they have limited experience teaching students with DHH.

The participants in the present study stated that supportive teachers were able to communicate the material being taught using a variety of visual methods, including technological devices. For example, some teachers used computer programs via projectors to present their sessions, presenting clear points by means of colourful pictures, which helps to ensure that students with DHH understand the content being taught. According to Tackala and Sume (2018), both technology and other support tools are needed for the inclusive setting. Marschark et al. (2002) write that teachers can use blackboards and projectors to include visual support in their instruction, and thereby cater to students with DHH. In addition, other forms of computer technology, such as computerised instructional packages, can usefully support the education of students with DHH, and some Saudi schools are equipped with such tools for this very purpose; unfortunately, Al Kauthar does not offer this capability. Batson (2003) asserts that computerised instructional packages allow for methodological activities and academic requirements to be monitored, based on the process of visual presentation; this contributes to the cognitive construction of students with DHH, and thereby increases their overall learning and ability to acquire fresh concepts. However, only some students with DHH in Saudi Arabia have access to computerised instructional packages, and these students achieve better

academic results than their counterparts who lack access to this technology (Bagabas, 2016).

Some general teachers attempt to meet the needs of their students with DHH by explaining and clarifying as much of the lesson as is possible in appropriate ways, noting down the material being learnt on the board to summarise the main points. By doing so, they give students with DHH a chance to visualise the information being conveyed, rather than just listening to it; this was also a suggestion made by one of the participants in this study. According to Angelides and Aravi (2007), most students with DHH require some kind of visual support, which does not necessarily have to be high-tech; eye contact between DHH students and teachers is one simple form of visual support (Vermeulen, Denessen & Knoors, 2012).

Based on classroom observations and interviews with participants, the researcher observed another form of classroom support at the Al Kauthar school: general teachers encourage hearing students to support their peers with DHH. For example, Arwa said that her general teacher asked her hearing peers to support her and other students with DHH in the event of exams or homework. According to Saur, Layne, Hurley and Opton (1986), this is one way of improving interactions between students during cooperative learning activities, and over a period of time, this cooperation can lead to an increased sense of classroom belonging among students with DHH.

Some participants also suggested that teachers can help their students with DHH by employing a clear voice when giving instructions or teaching materials, as was discussed earlier in this chapter, regarding classroom involvement. The participants in this study indicated that one serious problem was that general teachers often did not speak clearly, which reduced their ability

to contribute, and suggested that one solution would be for the teachers to speak with much greater clarity. These proposed strategies suggest that general teachers need to be aware of students' with DHH educational needs, and should strive to adopt appropriate strategies. It is interesting that the majority of these strategies to assist students with DHH can also be considered relevant to all students in the classroom.

The strategies mentioned here are consistent with the findings of a recent study by Takala and Sume (2018). They examined the teaching routines of 109 teachers in inclusive schools in Finland by means of a questionnaire that contained both closed and open-ended questions; all the teachers involved taught students with DHH at either the primary or secondary level. The paper found that 52% of teachers offered tailored support to DHH students that mostly took place at secondary schools, and typically involved pedagogical or technical support in the form of modified written or oral instructions; for example, mixed groups of students would be set to work together in small groups, while their teachers would employ a clear speech and various technical devices.

Another form of support that could, according to some participants, improve students' with DHH classroom involvement would be to modify curricula in simple ways to help them to better understand the session. The difficulties inherent in modifying curricula have been discussed in this chapter in the form of the third barrier preventing students with DHH from participating in mainstream schools. However, as mentioned previously, all schools across Saudi Arabia, whether they be mainstream or specialist DHH, are obliged to follow the same curriculum, which teachers are unable to change for any reason. Despite this background, it is important to state that the strategies suggested by the participants in this study may help to present, clarify, and explain the curriculum

in a simple way to support students with DHH in the general classroom. Mulat, Lehtomäki & Savolainen (2018) have suggested that both specialist and general classroom teachers work together to modify their classroom practices so as to boost the academic gains students with DHH can make in inclusive schools.

Support from specialist teachers

Most of the participants in the present study stated that the support they receive from their specialist teachers was crucial to their academic success, with most saying that they would not be able to follow their lessons without this support. According to Birch and Ladd (1997), being overly dependent on specialist teachers may have a negative effect on students with DHH; these authors argue that a high level of dependence on teachers correlated with negative attitudes toward school, and less positive engagement with the school environment. This, however, was not observed in the present study; as indicated earlier in this chapter, the majority of participants exhibited a generally positive attitude towards their school.

Some participants in the present study reported that their specialist teachers were able to offer particular modes of support that general teachers could not, which explained their dependence. One student said that her specialist teachers made use of simple language to convey to her what her general teachers were saying. Konza and Paterson (1996) have written that students with DHH are a minority in mainstream schools, and their abilities and needs are therefore often not fully understood by general classroom teachers, meaning that they may become excessively reliant on their specialist teachers. Research by Iantaffi, Jarvis and Sinka (2003) came to similar conclusions to the present study about the importance of this provision of support from specialist teachers. The

authors canvassed the views of 83 students in the UK about the inclusion of students with DHH in mainstream schools, 61 of whom were DHH, and 22 hearing. It emerged that the students with DHH saw their specialist teachers 'as teachers who helped them with various subjects, homework, revision, tests and exams, as well as assessing their needs' (p.150).

In this study, it was found that the support specialist teachers provided to students with DHH included summarising the curriculum and explaining difficult concepts, and that it occurs both in the mainstream classroom where general teachers and hearing students are present, and also in dedicated resource rooms that feature only students with DHH, whether in small groups or individually via an individual education plan (IEP), which was discussed in chapter two in this thesis. Such resource rooms are areas in mainstream schools where students with special needs are taught and supported by specialist teachers on a temporary basis (Bergsma, 2002). Most of the young women who participated in the present study indicated that they benefit from this approach because in these dedicated teaching sessions, they receive support from specialist teachers, which is especially important in difficult subjects. One participant said that she preferred to learn in this way because it meant that the specialist teacher was focused on her and her fellow students with DHH. However, Hyde and Power (2004) have stated that this is the least inclusive approach, while the most inclusive is when a specialist teacher accompanies a general teacher in the classroom, and they share teaching duties between them within a general classroom. Even though research has documented the benefit of such 'team teaching' (Kluwin, 1999; Luckner, 1999), inclusive schools nevertheless frequently 'pull out' students with DHH from mainstream classrooms and restrict them to 'resource rooms' (Power & Hyde, 2002). The present study found that Al Kauthar secondary mainstream

school employs both approaches; while students with DHH spend most of their educational time in general classrooms, they are also allocated certain periods in the resource room with special teachers every day. According to this researcher's observations, these periods typically last from 15 to 30 minutes per day. This may be because the decision to withdraw students with DHH builds on the preservice training that specialist teachers undergo, which still tends to focus on separate instruction (Luckner & Howell, 2002; Hyde & Power, 2004).

Support from hearing students

Some of the young women who participated in the present study described their hearing peers as cooperative and supportive, but the majority did not mention this factor, when discussing the support they received. Based on my observations, the students with DHH at Al Kauthar prefer to ask for support from their specialist teachers or peers with DHH, rather than from their hearing peers. This corroborates the findings of other studies, that students with DHH often seek support from other students with DHH . For example, Steinberg, Sullivan, & Loew (1998) investigated the attitudes, knowledge, and beliefs about mental illness among 54 deaf adults, conducting the interviews in American Sign Language. They found that individuals with DHH often reach out for help to their peers with DHH, and 81% of the participants preferred to study in DHH-only groups, as opposed to receiving support in mixed-hearing groups. According to the authors, this is because some participants have experienced communication difficulties, when in mixed-group peer-support groups. My claim is that the difficulties that are often a feature of communication between students with DHH and their peers can prevent individuals with DHH from accessing support outside their group, and therefore persons' with DHH experiences of obtaining support from their hearing

peers may vary from student to student, depending on their communication skills and past experiences.

It is worth repeating that both general and specialist teachers play a significant role in determining whether or not a cooperative atmosphere develops between different types of student in the classroom, and that they can promote collegiality by designing cooperative activities that involve all students. A number of studies have found that cooperative activities promote interactions and membership within groups, and can therefore boost students' with DHH feelings of belonging in mainstream schools, which is the main goal of inclusion. According to Saur, Layne, Hurley and Opton (1986), continued interactions between students during cooperative learning activities and experiences over a period of time is essential to bring about an increased sense of classroom belonging for students with DHH.

In this regard, positive interactions between DHH and hearing individuals are likely to improve the former's social relationships with the latter, and in the classroom setting, will boost students' with DHH academic and social achievements. This conclusion corresponds with the findings of Israelite, Ower & Goldstein (2002), who explored the identity construction of seven adolescents who attended specialist classes for students with DHH for all or all some of their primary school years in the United States, and concluded that students with DHH obtain social support and identity validation through their interactions with their hearing peers.

6.4 Some factors that influence academic inclusion

In the present study, it was found that the majority of participants mentioned common factors that exert an impact on their academic experiences.

It is difficult to separate these influences because they are often interrelated in complex ways, and likely to be connected to each other. These common factors are communication skills (speech level), the personal characteristics of students with DHH, and teachers and teaching strategies. Each of these factors will be explored in more detail below.

6.4.1 Communication skills

The students who participated in this study said that they communicated orally and the majority can communicate efficiently with both their hearing peers and their teachers. The possession of strong communication skills is an important factor in ensuring that students with DHH feel academically and socially included. Students' ability to learn and participate in the mainstream classroom is closely tied to their level of communication skills; if students with DHH are able to speak in a confident and clear manner, they are much more likely to successfully participate in the classroom alongside their hearing peers (Higgins, 1990). Some studies (e.g. Antia, Sabers & Stinson, 2007; Stinson et al., 1996) have found that some of the factors that promote academic success among students with DHH are the ability to participate in general classroom discussions, the possession of good receptive and expressive communication skills, and strong oral communication skills. Furthermore, Higgins (1990) has written of the importance of students with DHH being able to develop their communication skills, interact confidently with their hearing peers, and participate in the learning process; if students with DHH do not possess strong communication skills, this can limit their confidence, and in turn their ability to participate in the general classroom. Stinson and Lie (1999) suggest that such a lack of communication skills is a major issue that hampers students' with DHH ability to participate in classroom discussions.

Another finding of the present study is that shyness and the embarrassment that results from making speech mistakes is a factor that can limit students' with DHH participation in the mainstream classroom, even when they possess strong communication skills. Here, by 'speech mistakes,' I am referring to the mispronunciation of some words as a result of hearing loss, which is not necessarily related to weak communication skills. Some hearing students react negatively when they hear students with DHH make speech mistakes in the classroom; in the present study, one student with DHH, Abeer, spoke very clearly in the course of the interview, and has been described by her teacher as 'clever and independent,' but even she reported that she occasionally suffers ridicule from her peers when she makes mistakes. This seems to be related to the issue of students' with DHH social relationships with their hearing peers, which will be discussed later in this chapter. Such negative peer experiences can reduce students' with DHH confidence in their ability to participate in mainstream classrooms. Punch and Hyde (2005) explored the social participation of adolescents with DHH who attended mainstream school, and found that participants' intense sense of social isolation and negative peer experiences culminated in reduced academic and social confidence.

Speech difficulties and reactions from one's hearing peers are not the only reason why students with DHH can manifest a lack of confidence and shyness in the classroom. Foster (1989) has stated that students with DHH can be 'subjected to embarrassment due to the special accommodations they required, and [have] to endure the curiosity, even harassment, of hearing classmates' (p.52). Furthermore, retrospective studies into students' with DHH experiences in mainstream schools have reported that classroom life can be 'different' because these students are shy and lack self-confidence, which gives rise to feelings of

isolation and academic and social difficulties that are not directly caused by their hearing peers, but rather the effects of their hearing impairment (Bain, Scott, & Steinberg, 2004; Leigh, 1999).

6.4.2 Personal characteristics of students with DHH

Another issue observed in the present study that affected the academic and participatory potential of the students with DHH was the nature of their unique personalities and characteristics. Most participants who reported that they fully participated in their mainstream classroom were described by their specialist or general teachers as possessing distinctive character traits such as being attractive or confident, or manifesting a leading personality. This finding ties in with Foster (1989), who asserted that the level of personal embarrassment or self-consciousness demonstrated by students with DHH in the mainstream classroom affects their academic success. In the present study, I observed that the individual characteristics of both hearing and students with DHH affected what they did and how they reacted, both in and outside the classroom. Similarly, Brophy et al. (2007) attribute the success enjoyed by some students with DHH who attend inclusive schools to their individual character traits; however, this view has been criticised for ignoring the effects of the social and educational context, while it also holds the students themselves primarily responsible for their own success or failure in mainstream schools. Some of the teachers who participated in the present study touched on a number of the personal characteristics of their students, but did not state whether they were discussing students' underlying personalities, or rather their attempts to portray themselves in a certain way. Students' social environment can exert an important influence on their levels of participation, and can be positive or negative, depending on the context; for example, classroom characteristics such as the close proximity of adults and

negative attitudes displayed by other students or teachers can negatively influence students' with DHH participation (Carter, Sisco, Brown, Brickham, & Al-Khabbaz, 2008; Morrison & Burgman, 2009; Diez, 2010). On the other hand, if hearing peers in the classroom provide support to their DHH peers, this is likely to positively influence the latter's participation in activities in the classroom (Eriksson, Welander, & Granlund, 2007; De Schauwer, Van Hove, Mortier, & Loots, 2009).

6.4.3 Teachers and teaching strategies

In any discussion of the academic issues faced by students with DHH, it should be noted that such difficulties or delays may be caused by teachers' lack of skill and support, rather than by any perceived impairments on behalf of the students with DHH themselves. In this study, many of the participants displayed strong feelings about the level of support teachers provide, and their teaching style. The majority of participants acknowledged that general teachers in mainstream classrooms played a significant role in determining the extent of their participation, indicating that teachers vary in their understanding of students' with DHH answers, use of visual representation, and clarity of articulation. As indicated earlier, general teachers in mainstream schools are responsible for the education of all the students in their classroom, regardless of their hearing level, while specialist support teachers are responsible for students with DHH and for supporting the general teacher. According to Bowen (2009), this system requires that both teachers have time to jointly plan teaching sessions, and discuss classroom expectations and individual teaching styles. Specialist teachers are knowledgeable about the nature of deafness as a disability and have experience teaching students with DHH, and if they are able to share their experiences and cooperate with general teachers, they are likely to improve the quality of a

mainstream teaching session, and help students with DHH feel more included in the classroom (Fuchs, Fuchs & Stecker, 2010). The issue of the support specialist teachers provide to general teachers and their role in the mainstream classroom will be discussed later in this chapter.

Marschark et al. (2004) and Marschark (2005) have found that students with DHH typically enter and leave mainstream classrooms having gained less knowledge than their hearing peers, even when taught by highly experienced and skilled teachers and sign-language interpreters. However, this does not mean that skilled and experienced teachers do not exert a positive influence on students' with DHH understanding and participation in the classroom, but rather that such students are less likely to develop academically than their hearing peers. Detterman and Thompson (1999) have written that students' ability to succeed at school is dependent on their language and cognitive abilities, and therefore to improve students' with DHH levels of classroom participation and educational outcomes, teaching methods and materials must be developed that are specifically applicable to them.

Antia (2007) has stated that students with DHH often reveal communication difficulties in mainstream classroom; while most teachers are aware of the communication difficulties of students with severe deafness who require interpreters, the problems faced by students with mild-to-moderate deafness who are able to use oral language often remain invisible (Antia et al., 2009). All the young women who participated in the present study were able to use spoken language, and this category of students with DHH is often perceived as having more in common with their hearing peers than their counterparts with severe deafness. This being so, their educational and communication needs may go unnoticed, due to the belief that they can easily deal with the oral environment

that characterises the mainstream setting, and that they have less need of support than students with severe deafness (Marschark, Lang & Albertini, 2002; Ross, Brackett & Maxon, 1982).

In this sense, the participants in the present study mentioned a number of teaching methods that general teachers could employ to improve their teaching, and better include students with DHH in classroom activities; these include writing accompanying notes on the board while teaching so that students with DHH can read the content the teacher is discussing, and the use of forms of visual representation. Tvingstedt (1993) has argued that students with DHH sometimes 'hear' something other than what their teachers or classmates have actually said, and to follow classroom content more accurately, most students with DHH will benefit from complementary visual information in the form of written directions. Students with DHH need to divide their visual attention between looking at the speaker (the teacher), looking at the board, and taking notes (Marschark et al., 2002). This being so, Hodgson (1984) argues that if a lesson features oral discussions in addition to visual materials, students with DHH should be able to seek help from a classmate, or have access to individualised instruction from their teachers; being a teacher entails an obligation to meet the needs of all students under one's charge (Forlin, 1998; Jordan et al., 2010; Tomlinson et al., 2003).

The literature indicates that there is a need for both general and specialist teachers to provide support to students with DHH in the mainstream classroom. Morningstar et al. (2015) outlined a number of classroom management strategies that teachers could practice in order to benefit students with DHH; these include boosting student engagement, peer-supported learning, and access to a suitable curriculum, in addition to universal learning designs, curriculum adaptation and modification, and behavioural interventions. Stinson and Liu (1999) agree that

general classroom teachers can structure both the class as a whole and small-group activities in such a way that both DHH and normal-hearing students can learn together, while O'Connor and Jenkins (1996) state that students with DHH can participate in small-group discussions more easily than those that encompass the whole class, if they are set up appropriately. According to my observations in the course of this study, one common teaching strategy employed in the Al Kauthar inclusive school is dividing the class into small groups. However, students with DHH are usually placed in the same group as their peers with DHH, which does not help either the students with DHH or hearing peers to learn and work together (Stinson & Liu, 1999). However, if students with DHH are seated in the same group, they will be able to engage in peer learning with other students with DHH through the use of sign language, in addition to oral language; Anglin-Jaffe (2013) has argued that peer teaching and learning processes 'enable[s] the self-actualisation of ... Deaf children whereas the oralist methods [are] based on a deficit model that focuse[s] on modifying deaf children according to the norms of hearing society' (p.269). Maslow (1962) has written that self-actualization is the ability to transcend levels of physiological, psychological, and social needs, and to obtain fulfilment of personal needs and thereby generate meaning for one's life. According to Lantaffi, Jarvis and Sinka (2003), students with DHH typically appreciate an environment that provides them with access to both students with DHH and hearing peers. Based on my observations, seating students with DHH together in the same group in the general classroom helps specialist teachers to support these students by focusing on one or two groups, rather than dividing their attention across the classroom as a whole.

The findings of the present study indicate that the strategies that teachers choose to employ in the general classroom, the individual character of students

with DHH, and their communication skills all play a significant role in ensuring the academic inclusion of students with DHH. It has also been suggested that the goal of inclusion is to promote the social as well as the academic inclusion of students with DHH, and a number of studies have been carried out to investigate this perspective (Stinson & Antia, 1999; Power & Hyde, 2002). Jarvis (2002) argues that high levels of academic performance among students with DHH is associated with correspondingly high levels of social participation. The results of this study regarding social inclusion will be discussed in following next section.

6.5 Social inclusion

Social inclusion has been defined by McMahon et al. (2016) as ‘practices that support students with disabilities in their socialization and provide them opportunities to connect with diverse peers without disabilities’ (p.659). To experience social inclusion, students with disabilities have to overcome social, political, and economic barriers before they can enjoy meaningful participation in society (Hill et al., 2004). This can mean the ability to participate in school activities, engagement with their peers in break and play periods, establishing friendships/relationship with peers, and having access to quality inclusive practices in the general classroom (Koller, Pouesard & Rummerts, 2018). Social inclusion is widely acknowledged as a significant factor in laying the groundwork that makes it possible for students with DHH to succeed academically (Tinto, 1993). Figure 7 below portrays a summary of the findings related to social inclusion for students with DHH in this study.

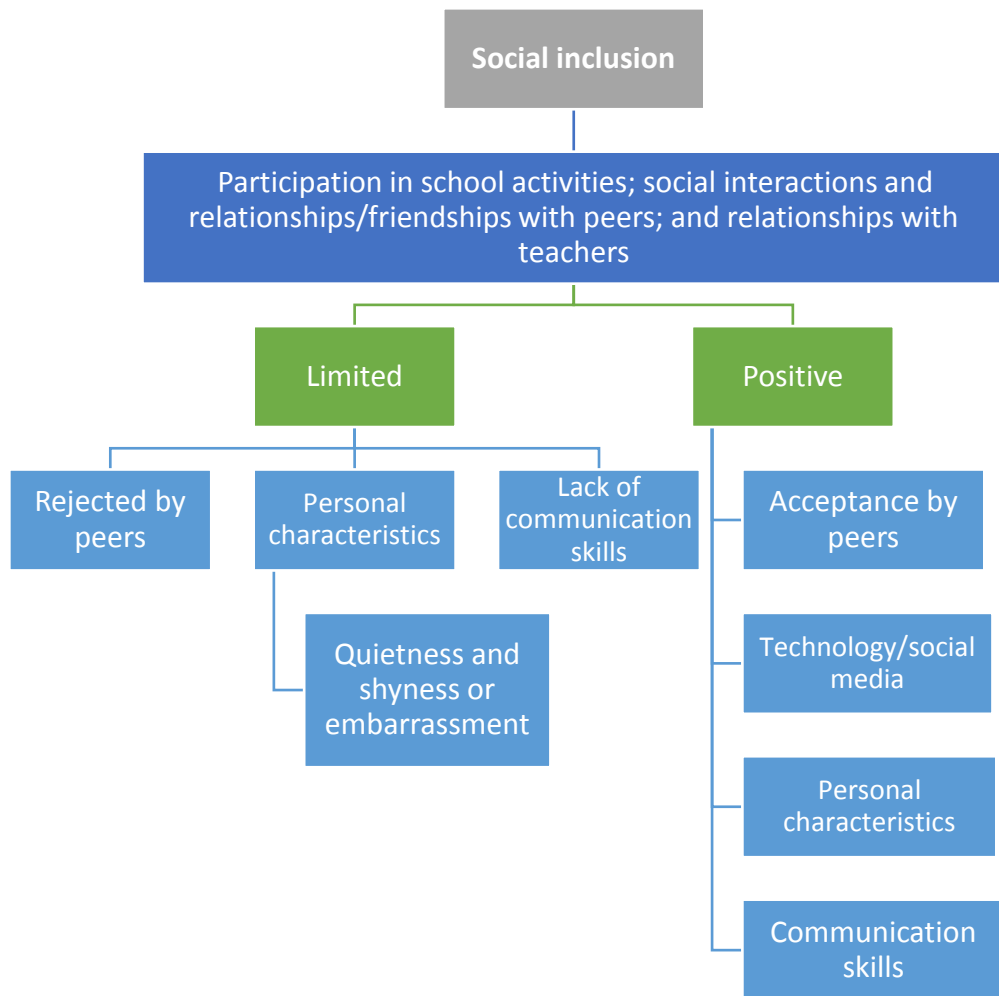


Figure 7: Social inclusion of students with DHH at Al Kauthar mainstream secondary school

The above figure reveals that the social inclusion of students with DHH with their hearing counterparts in the Al Kauthar mainstream school is a complex issue. The term ‘social inclusion’ is discussed under the following themes: participation in school activities; social interactions and relationships/friendships with peers; and relationships with teachers. This will be followed by an examination of the factors that contribute to social inclusion such as communication skills, participants’ personal characteristics, technology and social media, and acceptance by peers.

6.5.1 Participation in school activities

Some interesting data emerged in the context of social inclusion, such as whether the young women who participated in the present study engage in extracurricular activities at school. The analysis conducted in Chapter five (part two; the cross-case findings) reveal that students with DHH at Al Kauthar have only limited opportunities to, for example, present a poem or song on national days and special occasions. This finding corresponds to those of qualitative and observational studies conducted in Sweden, the US, Canada, and Iceland, which reported that students with disabilities participate less in both structured and unstructured activities, compared to their peers without disabilities (Eriksson et al., 2007; Carter et al., 2008; Coster et al., 2013; Egilson & Traustadottir, 2009). The same observation was also noted by Punch, Hyde and Power (2007), that students with DHH are more likely to experience social exclusion than their hearing counterparts.

The limited social participation enjoyed by students with DHH in school activities in the inclusive setting stems from a variety of factors. One of these, which was observed in the present study, was students' with DHH feeling of embarrassment and shyness about speaking in front of staff and students. This intimates that students' with DHH personal characteristics (Bat-Chava & Deignan, 2001) and confidence (Martin et al., 2010) are important factors that influence their level of social participation (Batten, Oakes & Alexander, 2014). These feeling of shyness and embarrassment are likely to arise due to the speech difficulties that most students with DHH experience as a result of their hearing loss. The teachers and mothers of students with DHH canvassed in Loeb and Sarigiani (1986) described their children as exhibiting greater shyness and less confidence at school than visually impaired and non-disabled students. These

students also linked their shyness with regard to social participation to their hearing loss.

Another factor in this study that was found to limit social participation is the speech and communication difficulties that students with DHH have due to their hearing loss. This corresponds with Charlson, Strong and Gold (1992), that some teenagers with DHH in inclusive schools feel that some of their personal characteristics such as unusual speech patterns and communication difficulties prevent them from participating in social activities to the extent that they would like. This is not surprising, given that the communication difficulties that students with DHH often manifest due to their hearing loss may prevent them from developing appropriate social skills; Antia, Jones, Luckner, Kreimeyer and Reed (2011) found a positive association between students' with DHH social skills and their participation in extracurricular activities at school.

The findings of this study indicate that the absence of encouragement from teachers also hindered students' with DHH social participation. This can be explained by recourse to the influence that teachers have on the relative success of the implementation of policies of inclusion (Avramidis & Norwich, 2002), which can play a critical role in their success, both academically and socially (Antonak and Larrivee, 1995). When teachers are supportive of inclusion, they are more likely to offer additional support to students with DHH (Cook, 2004). However, it must be remembered that such a lack of social support and encouragement from teachers is not necessarily linked with their attitudes toward inclusion, whether it is positive or negative, and it was not the aim of the study to explore this; the issue is rather that in the Saudi educational system, the overarching priority is always academic achievement. Students, parents, and teachers are chiefly

interested in exam outcomes, given that they are the only criteria on which one can gain access to higher education after secondary school.

This attitude can mean that teachers operate within the discourse of academic outcomes in inclusive settings, given that education in Saudi Arabia is usually judged in terms of academic achievements. However, this judgment can lead to social exclusion because there are often students with DHH who fail to be accommodated within the existing system, though, this is not the situation in this study.

6.5.2 Social interactions and relationships/friendships with peers

The participants in this study put forward varying comments and observations about the nature of their social interactions and relationships with their peers at Al Kauthar. A key finding was that the participants report both positive and limited social experiences, depending on various factors. There appears to be variance in perspectives on social interactions and relationships/friendships with peers in terms of specific factors such as communication skills (particularly in relation to speech), students' unique characteristics, acceptance from one's hearing peers, and support with social media and technology. Half of the participants described their social interactions and relationships with their hearing peers and teachers as positive *inside* the classroom, but they nevertheless reported difficulties relating to their hearing peers *outside* the classroom. In their interviews, the teachers agreed with this perspective. A few participants with DHH stated that they maintain friendships with hearing peers both in and out of the classroom, but the remainder revealed that they did not socially interact with their hearing peers and did not have friendships with them, but neither did they suffer from negative relationships.

Antia (1999) argues that one of the fundamental aims of inclusive education is to provide students with DHH with opportunities to engage in everyday interactions with their hearing peers in order to increase and improve their communication skills. However, the findings of this study indicate that simply placing students with DHH in mainstream classrooms does not necessarily facilitate meaningful social interactions, which also correspond with some studies, such as, Antia, Stinson & Gaustad, 2002; Bobzien et al., 2013; Hyde & Power, 2004; and Weisel, Most, & Efron, 2005). The findings of Xie, Potměšil and Peters (2014) also confirm that there cannot be said to be uniformly negative or positive social interactions between students with DHH and their hearing peers in inclusive educational settings. Xie et al. (2014) highlight that students with DHH unusually face difficulties and challenges in general communication, such as starting and maintaining interactions with their hearing peers, even though according to Koster, Nakken, Pijl and Houten (2007), these interactions have a positive impact on students with DHH, and are important for social inclusion and participation in the classroom learning process.

The lack of friendships with hearing peers that was found in this study corroborates Stinson, Chase and Kluwin (1990), who assert that even when students with DHH have contact with their hearing peers in mainstream classroom settings, this does not always result in friendships. Similarly, other studies (e.g. Ladd, Munson & Miller, 1984; Hyde, Punch & Komesaroff, 2010; Punch & Hyde, 2011) have found that many students with DHH in mainstream schools have social difficulties in relating to their hearing peers, and while some do develop friendships and interact with these peers in the classroom, they typically have limited or no interactions with them outside school. This

corresponds with the findings in this research about the difficulties students with DHH typically experience, with regard to social interaction with their hearing peers outside the classroom.

The data analysis revealed that one participant stated a greater sense of belonging with her fellow students with DHH, even though she maintained friendships and positive relationships with her hearing peers. This falls in line with the findings of Leigh (1999), Foster (1989), and Stinson et al. (1996), that students with DHH tended to form friendships with each other, rather than with their hearing peers, even if they use positive terms to describe their inclusive experiences. Foster (1989) and Stinson et al. (1996) similarly report that although the majority of students in mainstream schools are hearing, the minority of students with DHH nevertheless rely on each other for meaningful communication, a sense of belonging, and social interactions. These feelings of belonging and meaningful communication between students with DHH may result from the higher emotional security they experience with each other than with their hearing peers (Stinson et al., 1996).

In the present study, the participating students and teachers outlined four main factors that determined whether their interactions and relationships with their hearing peers in the classroom were positive or negative: communication and speech skills; the individual characteristics of the students with DHH– the extent to which they are socially confident or friendly; the level of acceptance and support they receive from their hearing peers; and technology and social media support. In other words, the participants reported that Saudi students with DHH who are sociable and friendly are accepted by their peers, make use of the benefits conferred by technology and social media, and those who have a high speech intelligibility usually experience positive social inclusion. This is similar to

Leigh (1999), who found that the extent to which students with DHH socially participate with their hearing peers in mainstream schools is very much contingent on a multiplicity of factors, including but not limited to their individual characteristics and level of confidence, communication skills, acceptance by their peers, and academic achievement. This corroborates previous studies conducted in the Saudi context (see Chapter three), as discussed by Almutairi (2016), who found that the barriers preventing students with DHH from interacting socially were the characteristics of the students themselves, their family, school, and the community at large. Almutairi (2016) also indicated that problems with social interaction seem to be related to factors such as a lack of self-confidence, family members' and teachers' experience, the nature of the school, and local people in the community. The individual factors related to this study's participants' social interactions and relationships/friendships with hearing peers in inclusive schools will be explored in more detail later in this section.

It has been argued that the factor of students' with DHH positive social interactions and relationships with their peers is related to the relationship they enjoy with their teachers. For example, Wentzel, (1997, 1998) claimed that when students in general have a trusting and warm relationship with their teachers, they are more likely to have positive social interactions/relationships with their peers and parents, show more appropriate behaviour in the classroom, be more engaged academically, and achieve higher academic outcomes. This indicates that teachers can greatly influence the quality of students' with DHH academic and social experiences by establishing positive teacher-student relationships. The issue of students with DHH relationship with teachers will be discussed in the next section.

6.5.3 Students with DHH relationships with their teachers

Wubbels, Brekelmans, Brok, Wijsman, Mainhard, & Tartwijk (2014) defined teacher-student relationships as 'the generalized interpersonal meaning students and teachers attach to their interactions with each other' (p.364), while according to Hamer and Pianta (2001), the teacher-student relationship greatly affects students' level of well-being. The majority of the young women who participated in the present study reported that they enjoyed positive relationships with both their general and specialist teachers, and that they perceived their teachers to be kind, supportive, and striving to maintain a good standard of communication. This was especially the case with their specialist teachers. The positive relationship enjoyed between the students and teachers at Al Kauthar may be attributed to the nature of the education system in Saudi Arabia, where extra income is available to support both general and specialist teachers who are teaching students with DHH. This may encourage teachers to build better relationships, and serve to improve their attitudes toward students with disabilities. Research has shown that a significant factor in the extent to which students with DHH feel included in the mainstream school setting is the attitudes espoused by teachers and school staff (Gibb et al., 2007), which exert a strong effect on students' experiences (Baker, Grant & Morlock, 2008).

In contrast, a negative relationship between teachers and students with DHH can be said to exist when teachers make frequent attempts to control their students' behaviour, which can lead to the creation of a negative school environment (Hamer & Pianta, 2001). It is the teacher's responsibility to build and maintain a positive relationship with their students (Pianta, 1997). According to Pianta (1997), this can be done if teachers regulate communication, activity levels, and contact with peers, in addition to simply boosting academic skills.

Another important factor that affects students' with DHH performance at school seems to be the emotional connections in place between the students and teachers at individual schools (Hamer & Pianta, 2001) ; if students with DHH enjoy a positive emotional connection with their teachers, whether they are studying at a mainstream or a specialist DHH school, they are more likely to evince a positive attitude towards their educational setting.

Such a positive relationship with teachers may come about due to the nature of students with DHH interactions with their teachers in general classrooms, and their level of familiarity with their teachers. The participants in this study spend most of their time in the general classroom, being withdrawn once per day to spend time with a specialist teacher for about 30 minutes. Stinson and Whitmire (1992) found that students in the UK with hearing loss reported higher levels of emotional security with their hearing peers, the more time they spent in general classrooms. I assume that spending more time with teachers may lead to better relationships, given the increased familiarity with teachers and peers that this will engender. Walters, Knoors, Cillessen and Verhoeven (2012) conducted a quantitative study involving students with DHH from two grades in the Netherlands: grade six, which is the final year in primary school; and grade seven, which is the first in secondary school. These authors focused on students' with DHH relationship with their peers and teachers, and the effects of these relationships on well-being in mainstream schools, during the transition from primary to secondary school. The findings indicated that relationships with teachers were the strongest predictor of well-being for students with DHH in grade six, but not for those in grade seven. This could be because the students are transferring to a new school with which they are not familiar, and that their relationships may improve with familiarity and time.

6.6 Some factors that influence social inclusion

Students with DHH social experiences vary, depending on factors such as their communication skills (speech level), personal characteristics, and level of acceptance by their hearing peers. Each of these factors will be explored in detail below.

6.6.1 Communication skills

As mentioned previously, students with DHH ability to participate in the mainstream classroom is closely tied to their level of communication skills, as well as their social experiences. Some of the young women who participated in the present study responded with positive comments about their social communication skills (such as showing a high level of speech abilities), and stated that they had had positive experiences of social inclusion in their mainstream school. A number of researchers have discussed the relationship between students' with DHH communication skills and their social experiences in inclusive settings. For example, Antia et al. (2011) has stated that the factor that influences most strongly on whether or not students with DHH feel socially included is their mode of communication and level of communication skills. Most et al. (2011) and Wolters et al. (2011) found that oral communication – specifically, speech fluency, pragmatic language skills, and the ability to improvise in conversation – is positively associated with a full range of social behaviours, relationships, social interactions, and popularity. In addition, Stinson and Whitmire (1992) reported that adolescents with DHH adolescents preferred to use spoken language reported more frequent social interactions with their

hearing peers. All the young women in this study are able to use spoken language, but have different levels of communication skills.

Some participants in this study connected their high level of communication skills with positive experiences of social inclusion. This corresponds to the findings of McCain and Antia (2005), that students' with DHH communication skills and mode of communication are a necessary prerequisite to making friendships with hearing peers, and have a major effect on their quality and quantity of interactions with their normal hearing peers and teachers (Antia et al. 2011), in addition to their social relationships and experiences (Stinson & Kluwin, 2011). If students with DHH are able to communicate with their hearing peers, this will greatly enhance the friendships and relationships that they develop in the classroom (Bowen, 2008).

The findings of this study indicate that limited social interactions and relationships are likely to develop between DHH and hearing students if the former display speech difficulties, leading to quietness and shyness or embarrassment, when interacting with peers and teachers. This corresponds to the research performed by Charlson, Strong and Gold (1992), that some students with DHH in inclusive settings feel that aspects of their image such as their unusual speech patterns, use of hearing assistance, and communication difficulties with their hearing peers prevent them from fully participating in social activities. Other research has shown that low levels of speech intelligibility are significantly related to psychosocial difficulties (Dammeyer, 2010) and feelings of loneliness (Most, 2007) among students with DHH, while according to Mindel and Vernon (1971), communication difficulties can lead adolescents with DHH to experience certain difficulties that result in social isolation.

Any improvements that students with DHH can make in their speech skills can lead to increased social participation, interaction, and relationships with their peers and teachers. Bat-Chava et al. (2005) suggested that enhancements in oral communication for students with DHH can lead to increased experiences of spoken conversations, which can help students to better understand their peers' views and feelings, and thereby improve students' with DHH social skills and relationships. Such relationships with peers can lead in turn to better social skills (Glick & Rose, 2011). However, poor communication skills are not the only the reason for students' with DHH limited social participation, social interaction, and relationships with peers and teachers, given that some young women in this study possessed very strong speech skills, but nevertheless reported limited social relationships with their hearing peers. Another factor that should also be considered in this regard is individual students' personal characteristics.

6.6.2 The personal characteristics of students with DHH

Some of the participants in the present study stated that they experience limited social interaction, relationships, and friendships with their hearing peers, even though they demonstrate high speech intelligibility. For example, despite having a cochlear implant and strong speech abilities, one otherwise highly successful young woman was nevertheless described by her teachers as enjoying very few social interactions with her hearing peers. An additional factor that seems to affect social outcomes is students' personal traits. Some teachers in the present study mentioned that if students with DHH are confident, clever, sociable, and independent, they are more likely to enjoy positive social relationships with their peers. This corroborates with the findings of Brennan (1982), who has stated that individuals' with DHH personal traits inevitably influence the quality of their interpersonal relationships, including those with their

peers. In their study of the social relationships enjoyed by adolescents with DHH in the mainstream school setting, Stinson et al. (1996) found that students who participated in many school activities and who felt emotionally secure with their normal-hearing peers were more confident in themselves and their social relationships with others, and thus manifested strong social competence and skills. In their study, Brophy, Smith, Fitzpatrick, Duquette and Whittingham (2007) found that the particular characteristics of individual with DHH were the second-most frequently mentioned factor that impacted on their level of social inclusion. According to Brophy et al. (2007), these characteristics included a self-confident attitude toward their communication needs in social and community settings, openness and willingness to explain and discuss their hearing loss, and the ability to maintain a sense of humour in situations in which misunderstandings or miscommunication occur.

Yet further researchers (e.g. Antia, 1998; McDermott & Varenne, 1995; Mehan, Hertweck & Meihis, 1986) have found that factors external to students with DHH are also significant considerations, in terms of their inclusion; these include the ability of conversational partners to adapt and organise interactions and discourse structures to respond to others. Gresham and Elliott (1999) have stated that this is the essence of social skills, which they define as 'socially acceptable learned behaviours that enable a person to interact effectively with others' (p.1). Other factors for students with DHH are their level of motivation, level of anxiety, study habits and strategies, identity issues, and self-advocacy (Albertini et al., 2012), which can play a critical role in their social success.

Brennan (1982) has written that in the social-structural world, adolescents are considered neither adults nor children, and that their lack of a well-defined identity can lead to a sense of detachment from social societies. Some students

with DHH are particularly sensitive about their differences from their hearing peers (Diver, 1990), which can put them at high risk of becoming isolated from the hearing world around them, and therefore lead to feelings of loneliness. In the present study, only one girl – Rawia – informed the researcher that she regularly participated in school events and activities. According to her teachers, Rawia has a sociable character and is therefore able to maintain good friendships with both her hearing and DHH peers alike. This does not necessarily mean that the other participants do not have a sociable character, but that they may not possess such advanced social skills. Antia and Kreimeyer (2015) have argued that students' degree of peer acceptance is related to their social skills, and that students who are well-liked by their peers display good conversational and language skills, positive behaviours, and tend to cooperate with other students.

6.6.3 Peer acceptance

Acceptance by one's peers refers to the degree to which the individuals of a peer group like a particular child (Bierman, 2004). In the present study, one participant in particular spoke about the importance of peer acceptance, stating that she had positive relationships with her hearing peers because she felt accepted by them. On the other hand, another girl admitted that the limited social relationships she had with her hearing peers was due to the negative reactions she observed among her hearing peers when she spoke with them. However, most of the young women who participated in the present study did not directly mention that they felt accepted or rejected by their hearing peers, even while some indicated that this acceptance was particularly important for them to enjoy positive social relationships. This finding corresponds to that of Antia and Kreimeyer (2015), who reported that the data on social acceptance studies is contradictory. For example, Antia and Kreimeyer (1996), Danieals, Durieux-

Smith, McGrath and Neuss (1995) and Nunes, Pretzlike, & Olsson (2001) measured the social acceptance of young students with DHH educated in mainstream schools, and found that they received lower acceptance scores from their hearing peers, compared to other hearing students. The students with DHH in these studies were not necessarily rejected or disliked, but were rather often socially neglected; that is, they are neither liked nor disliked, and may not be chosen as friends.

The young women in the study touched on the important of being accepted by their hearing peers for social participation. The significance of social acceptance by one's peers is a theme that is discussed in the literature. According to Antia (1998), inclusion provides students with DHH with opportunities to interact and establish social relationships with their hearing peers, but only if they feel accepted by others; students with DHH need to be accepted in order to socially interact with others in the mainstream classroom. Prince and Hadwin (2013) have put forward the concept of a 'sense of school belonging,' which they define as 'the extent to which individuals feel personally accepted, respected, included, and supported by others in their social environment' (p. 238). This acceptance by hearing peers is also seen to be a component of students' with DHH academic success; indeed, Coyne (1993 p.90) found it was 'the best predictor of academic success.' On the other hand, peer rejection negatively affects the social relationships that take place between DHH and hearing students. According to Nunes, Pretzlik and Olsson (2001), students with DHH in mainstream schools reported feeling more socially isolated and lonely than their counterparts attending specialist schools. A number of studies have found that isolated students typically manifest social problems such as anxiety, depression, and low self-esteem (Strauss, Forehand, Smith & Frame,

1986). However, not all students with DHH feel as if they are not accepted by their hearing peers; as mentioned previously, this will depend on individual students' characteristics and feelings about themselves and other people.

Social integration theory (Bowd, 1992; Kunc, 1992) highlights the significance of social acceptance by one's peers to ensure social participation in valued activities, and enhance the sense of belonging for students with DHH, which leads to full social participation. This theory suggests that if students with DHH believe that they are contributing to and are an accepted member of a community or group, they are more likely to experience happy and productive lives. On the other hand, negative social interaction and a lack of acceptance is likely to exert a negative impact on individuals and society (Hardy, 2009).

Lewis (1995) found that peer acceptance of students with disabilities is affected by other students' understanding of the students' special needs, and according to Horn and Timmons (2009) and Prater (2010), this can be increased if all students share the same educational setting; the more time that students with DHH spend with their hearing peers in the general classroom, the more likely they are to develop social acceptance and relationships with them.

6.6.4 Technology and social media

One girl in the present study indicated that the ubiquitous phenomenon of mobile phones and their attendant social media platforms encourage her to stay in contact with her peers outside school, which leads her to maintain better relationships with both her hearing and her peers with DHH. As discussed previously in this chapter, of the various factors that researchers have studied that contribute to students' with DHH feelings of social inclusion, the most important is their communication capabilities (Antia et al., 2011), while any lack

of communication skills (such as with regard to listening and speaking) is a major issue that limits their social interactions with their hearing peers (Stinson & Lie, 1999). Social media seems to play an important role in facilitating DHH students' quantity and quality of social interactions with their hearing peers (Toofaninejad, Zavaraki, Dawson, Poquet, & Daramadi 2017). This is because students' with DHH inherent difficulties in listening and speaking do not affect their communication over social media applications such as WhatsApp, Instagram, and Snapchat, and therefore students with DHH may be more confident at communicating via these applications, which may serve to strengthen their relationships with their hearing peers. Antoniadis, Koukoulis, & Serdaris (2017) found that social media provides greater opportunities for all students to connect and interact with their peers and teachers. According to Englert, Margrate and Young (2004), modern-day communication technologies such as social media direct, regulate, and shape individuals' social interaction, and can help disabled students to participate in social processes and activities. Furthermore, Odabasi, Kuzu, Girgin, Çuhadar, Kıyıcı, Tanyeri (2009) have written that 'mobile technologies can be considered as an indispensable alternative for hearing impaired individuals as they facilitate their interaction with the society, and meet their daily and instructional needs' (p.10), making it crucial to encourage students with DHH in mainstream schools to use these technologies, and provide them with the right instructions to implement them correctly. Teachers could also contact their students with DHH via those programs, and in that way, establish good relationships with them. From the findings of this study, however, there is no communication through social media between general teachers and students with DHH. Nevertheless, from my observations there was a communication

between special teachers and students with DHH over social media, specifically, through WhatsApp.

It is clear that there are many factors that determine the extent of inclusion for students with DHH. For example, the students' own attitudes toward inclusion are likely to have an impact on their academic and social experiences in the inclusive setting, while at the same time, factors such as communication skills, students' characteristics, peer acceptance and relationships, and school resources are interrelated in complex ways and affect each other, which in turn affect students' academic and social experiences. McMahon et al. (2016) have stated that in order to conclude that a student with a disability is 'included' in a mainstream school, both the aspects of social and academic inclusion must be satisfied (Olsson et al., 2018). In their qualitative study, William and Downing (1998) found that when students with disabilities were included in school activities, established friendships/relationships with hearing peers, and participated in the mainstream classroom, they felt an increased sense of belonging, which Frederickson and Baxter (2009) consider to be important throughout life. This sense of belonging in the inclusive setting will be discussed in the next section.

6.7 A sense of belonging

According to Avramidis and Norwich (2002), inclusion 'implies a restructuring of mainstream schooling [so] that every school can accommodate every child irrespective of disability ('accommodation' rather than 'assimilation') and ensures that all learners belong to a community' (p.131). A critical aspect of understanding the value of inclusion is the extent to which students with DHH feel that they belong to their inclusive school, which is essential for a positive

learning experience. The results of this study indicate that the majority of participants (eight out of 12) are happy at Al Kauthar secondary mainstream school, but they did not use words that directly displayed a feeling of belonging, except for the cases of Abeer and Roaa, who openly said that they feel happy and a part of their school (see chapter five, Case 1, Abeer, and Case 10, Roaa). This finding supports the argument for inclusion put forward by Farrell and Ainscow (2002), that all students need to feel like they are welcomed and belong to the community. However, only two students in the present study reported feeling a sense of belonging, from which we could conclude that feelings of happiness in the inclusive setting do not necessary equate to a sense of belonging in the same setting.

Prince and Hadwin (2013) have suggested that the concept of a 'sense of school belonging' – which has been defined by Baumeister and Leary (1995) as 'the extent to which individuals feel personally accepted, respected, included, and supported by others in their social environment' – is linked to a range of positive outcomes in the school environment (p.238). In this study, Abeer and Roaa stated that they felt they belonged to their school due to their positive relationships with their teachers and hearing peers. This agrees with Saur, Layne, Hurley and Opton (1986), who found that continued interactions between students during cooperative learning activities and experiences over a period of time are essential to generate a sense of classroom belonging. Bouchard and Berg (2017) explored the factors that lead late primary/middle school nondisabled students to develop a sense of belonging to their school in Ontario, conducting semi-structured interviews with teachers and students that indicated that feeling of belonging came about due to reciprocal caring relationships with teachers, participation in extracurricular and school-based activities, and peer friendships. Although

Bouchard and Berg (2017) did not look at students with DHH, the sense of belonging for the latter is extremely significant in their wellbeing because they notice differences between themselves and others, which makes them particularly susceptible to cultural and social pressures (Choudhury, 2010; Fiske, 2009). The results of the current study build on these findings by showing that when students with DHH are socially included, they evince a stronger feeling of school belonging.

Another finding of the present study is that teacher support is a central factor that gives rise to feelings of belonging to an inclusive school (see chapter five, Case 10, Roaa). This corroborates Gibb et al. (2007), who emphasise that support from one's school and teachers enables students with DHH to feel included in the mainstream setting. In the Saudi educational system, the chief priority is academic outcomes by students in general, and therefore students with DHH may need teachers' support to obtain the same academic achievements as their hearing peers; if they do so, they are more likely to feel that they belong in such a setting. When students with DHH are given appropriate support to meet their students' needs, they are better positioned to complete their work, feel they belong, and be more satisfied with their inclusive school.

McMahon, Keys, Berardi, Crouch and Coker (2016) examined the extent to which schools (n = 11) implemented inclusion. They looked at the link between teacher-reported inclusion practices and student- and school-reported academic and social experiences among African American and Latina/o youth with disabilities (N = 76). This group included students with only one type of disability, including hearing impairment and other disabilities. The results showed that academic inclusion was associated with a higher sense of school belonging, academic achievement, and school satisfaction, and that higher social inclusion

was associated with school belonging and academic achievement. We can learn from this study that positive academic experiences (whether in the form of classroom participation and academic support) and positive social experiences (such as relationships/friendships with peers and teachers, being accepted, and social support from teachers and hearing peers) gives rise to feelings of belonging in school. Other researchers have indicated that a sense of belonging in a mainstream school leads to positive academic and social experiences, which was found also in this study (see figure 2). For example, Juvonen (2006) has written that the fundamental consensus of belonging research is that students who feel a sense of belonging in their school setting are more likely to have positive academic and social experiences, compared to students who feel disconnected and a lack of support. This is consistent with Finn's (1989) model of 'participation-identification,' which accounts for some of the procedures that lead to school success. Finn's model posits that students who identify with and have a sense of attachment to their school develop a sense of belonging that promotes involvement in school goals and their own participation and engagement in school life. Overall, there is strong evidence that there is an interrelationship between the academic and social experiences of students with DHH and their feelings of belonging in a mainstream school.

6.8 Summary

This chapter has combined and discussed the data presented in the previous chapter in order to answer the study's research questions. The next chapter will presents the summary of this study main findings and its contribution to Knowledge. This will be following by the implications that are drawn from the findings of the current study. The limitations, strengths, and recommendations for future research will be also presented.

Chapter Seven: Conclusion

7.1 Summary and main findings

This interpretive study has sought to explore the experiences of female students with DHH in one mainstream secondary school in Saudi Arabia, following a collective case study methodology that is similar in nature and description to the multiple case study approach (Yin, 2018). The participants were 12 female secondary students with DHH who all attended the same school, and have been diagnosed as having a hearing impairment as well as five teachers. The study design followed a qualitative methods to collect data from participants in the form of semi-structured interviews, unstructured observations, and focus groups. Furthermore, five teachers were interviewed to yield additional data.

This study looked at the perceptions and attitudes of students with DHH towards their inclusive setting, and at their experiences participating in general education classrooms and school activities, interacting academically and socially with their hearing peers, and the support they received in the inclusive educational setting. The results suggest that students with DHH in AlKauthar school in Saudi Arabia tend to hold generally positive attitudes toward the policy of inclusion; however, an 'attitude' is a complicated social interpretivist and context-dependent phenomenon and in this sense, the attitudes of students with DHH are dependent both on their communication performance and on other factors. Most students with DHH surveyed in this study displayed positive attitudes toward inclusion; this was particularly evident among those with strong oral communication abilities, which can help to promote social inclusion by enhancing contact with the hearing world. On the other hand, the participants who prefer to use sign language revealed less positive attitudes toward the

inclusive setting, which indicates that participants may be chiefly concerned with their academic achievements and experiences in the inclusive setting, which are to a large extent a result of the nature of Saudi Arabia's educational system.

Four main themes emerged from this study, with regard to the academic inclusion of students with DHH in the mainstream setting: participation in the classroom; barriers and difficulties in the classroom; exams and assessments; and support in the inclusive setting. In terms of participation in the classroom, the findings indicate that Saudi students with DHH are not always able to fully participate and engage in classroom discussions as a result of factors such as speech difficulties, shyness or embarrassment about making mistakes, and a lack of encouragement from general teachers. The findings also indicate that students with DHH face a number of difficulties and barriers that limit their potential to learn in the mainstream educational setting, including environmental barriers, negative attitudes on the part of hearing students, and academic difficulties. Furthermore, most participants stated that they typically do not experience difficulties in their exams, but nevertheless do find the academic curriculum challenging. Students with DHH in Saudi Arabia receive three main forms of support: from their general teachers, from their specialist teachers, and from their hearing peers at school. The majority of the participants in the present study reported receiving all three types of support, but also revealed that in most lessons, they were particularly dependent on support from specialist teachers.

With regards to the aspect of social inclusion, the study found that there are four main factors that seemed to play a role in the extent of the positive social interactions and relationships enjoyed between students with DHH and their hearing peers: the students with DHH own characteristics; their communication skills; the level of acceptance from hearing peers; and technology and social

media support. Overall, the main factor that promoted academic and social inclusion for students with DHH was the extent of their communication skills.

Another finding is that there is a complex interrelationship between different aspects of inclusion (such as attitudes toward academic and social inclusion) that affect students with DHH entire experience of inclusion. Feelings of belonging in the inclusive setting are a particularly important aspect of inclusion. Overall, there is strong evidence in this study of an interrelationship between students with DHH attitudes toward inclusion and their academic and social experiences, which are affected by factors such as their level of communication skills, personal characteristics, and feelings of belonging in the mainstream setting (see chapter six Figure 2); these findings may yield important insight into the effectiveness of inclusion (Lindsay, 2007).

7.2 Contribution to knowledge

In this section, I will propose the areas in which this study contributes to the body of knowledge in this field. This study has contributed to a number of methodological and theoretical areas regarding the experiences of students with DHH in Saudi Arabia. The literature review identified gaps in terms of understandings of the experiences of students with DHH in the inclusive setting, and the current study helps to address the five main gaps identified. Firstly, a great deal of research in this field considers students with special educational needs (SEN) to be a homogenous group, when exploring their experiences in the inclusive setting. However, this study looked at the experiences of students with DHH as a separate group. Secondly, much research in the fields of SEN and deafness focuses on parents', teachers', and educators' views about inclusion, revealing a need to understand students with DHH experiences from their own

perspective, and therefore the present study focused on students with DHH own perspectives toward inclusion. Thirdly, a considerable amount of research in the fields of inclusive education and deafness has been positivist in nature, meaning that there is a lack of interpretive (in-depth) studies looking at the experiences and perceptions of students with DHH as a small group in the inclusive setting. This being so, the present study explored in depth the issue of the inclusion of students with DHH students, employing qualitative methods to explore their attitudes concerning academic inclusion, social inclusion, and feelings of belonging to find out the extent to which they feel included in the inclusive setting. Fourthly, research has typically focused on the experiences of students with DHH in the inclusive setting in terms of one aspect only, such as social participation or academic achievement; very few studies have looked at the experiences of students with DHH more broadly, and therefore the present study does so from the perspectives of both academic and social inclusion. Fifthly and finally, a great deal of research has explored the inclusion of students with SEN in general and students with DHH in particular in primary school, but very few researchers have done the same for secondary schools. This being so, the current study has explored the inclusion experiences of students with DHH in mainstream secondary school; these students have more experiences of inclusion throughout their learning journey, with some experiencing another type of setting altogether, which gives them a broad understanding of the entire issue.

This study has further contributed to knowledge through its design and methods, and can help future educational research in Saudi Arabia and other Arab countries through its examination of the interpretive research framework, especially with regards to how to adopt a multiple-case study design and triangulation through semi-structured interviews, unstructured observations, and

focus groups, which is a combination of research methods that has not been extensively used in previous research in Saudi Arabia. This research has demonstrated that such an interpretive approach can yield more in-depth data about inclusive education for students with DHH than a positivist approach, and has established a platform for further research to be conducted following an interpretive research paradigm.

In addition, this study contributes to knowledge through its findings, which cover the entire spectrum and complexity of the experiences of inclusion for DHH students, and the factors that have influenced inclusion for them (see chapter six Figure 2). This study has found that there are complex interrelationships between different aspects of inclusion (attitudes toward inclusion, and the academic and social experiences of inclusion for students with DHH), which affect students with DHH feelings of belonging in the inclusive setting. This study found that the students with DHH sense of belonging in the inclusive environments is associated with students' academic experiences and involvement in school and classroom activities (academic inclusion) and social experiences (social inclusion) and their attitudes toward inclusion. For example, students' positive attitudes toward inclusion seem to be a reason for experiencing positive academic inclusion (e.g. more engaged and participated in the classroom activities) and social inclusion (e.g. being accepted, included, and encouraged by others, such as, teacher and peers) and those all lead to the feeling of belonging to the school.

7.3 Implications of the study

The findings of this study offer a number of theoretical and practical implications for the development of the theory and practice of inclusive education and for educational improvement for students with DHH. It would be extremely beneficial if these implications were to be considered by the Ministry of Education

in Saudi Arabia, policy makers, researchers, and other stakeholders to improve progress towards the inclusive education of students with DHH in Saudi Arabia. Although most of these recommendations are formulated to improve the inclusive setting in Saudi Arabia, they may also usefully be applied to mainstream schools in other countries.

7.3.1 Implications for theory

This study provides detailed information, based on the participants' experiences and perspectives on the topic of the inclusion of students with DHH in one secondary school, which had not previously been explored in the context of Saudi Arabia. It is critical to note that there is no universal agreement and understanding of inclusion in the literature on inclusive education (Odom & Diamond, 1998; Felder, 2018), which was discussed in chapter three. The Ministry of Education and educators in Saudi Arabia have followed the policies of other prominent educators around the globe, although they have taken some time to get up to date with both the terminology and policy. As an illustration of this, readers of Arabic literature will recognise that there is one Arabic word – *damg* – that encompasses the English terms 'integration,' 'mainstreaming,' and 'inclusion.' When Saudi researchers publish their work in English, even in the most recent literature examples, they use the term 'mainstreaming,' while 'inclusive education' was the term most widely used by the late 1990s (Osgood, 2005). Consequently, there has been a gap between the creation of the term and the use of it in Saudi Arabia, leading to a need for the Ministry of Education and policy makers in the Kingdom to come to an agreement and define 'inclusive education' in a way that appropriately reflects inclusion. The present study shows that the value of inclusion for students with DHH not only depends on students themselves, but also on their teachers, the school environment, their hearing

peers, and the inclusive educational policy developed by the Ministry of Education and the Department of Education in Saudi Arabia. The combination of all parties may improve the inclusive setting for all students with DHH.

This study offers a chance for the Ministry of Education in Saudi Arabia, policy makers, and educators to understand what is actually happening in mainstream classrooms. The findings generated in the course of this study indicate that students with DHH are currently facing a number of barriers and challenges in the inclusive setting.

7.3.2 Implications and recommendations for policy and practice

The experiences of students with DHH in the inclusive setting in Saudi Arabia are undoubtedly complex. In practical terms, this study presents evidence that can support policy makers who wish to improve inclusion for students with DHH. The inclusive setting gives rise to great challenges for schools, teachers, staff members, students with DHH, and their peers.

The findings reflect individual students with DHH experiences of inclusive education in Saudi Arabia, and the present study suggests that the issue of inclusion for DHH students is more complex than might be assumed. A great deal of scholarly work has been conducted to identify the difficulties and barriers that hinder inclusion and recognise the changes that need to be made to bring about improvement, and the current study offers a range of practical implications in this regard in terms of policy, curriculum and pedagogy, teacher training, hearing peers' awareness, and school preparation.

The findings of this study reveal that some students with DHH have somewhat negative attitudes towards and feelings of isolation in their inclusive school, which indicates that mainstream school is not satisfactory for all students

with DHH. This study suggested that there should be changes in the mainstream schools so that it is satisfactory for all students with DHH in Saudi Arabia. Inclusion of students with DHH requires more systematic movements as well as more shared responsibility of support services and accommodations for the whole school staff, as has been noted before (Powell, Hyde, and Punch 2014).

With regard to the curriculum, the findings of this study show that students with DHH in mainstream classrooms face some academic difficulties because the curriculum currently in place cannot be modified by teachers, and therefore policy makers in the country may consider rethinking to enable teachers to modify the curriculum to help all students meet expectations (Angelides, 2004). Feiler and Watson (2010) also mention that the curriculum is a common barrier to participation for students with disabilities; they claim that curriculum individualisation and adaptation according to students' needs would be beneficial to educational progress. This study suggest to increase the cooperation between the policy makers with specialist DHH teachers and mainstream teachers in order to adapt curricula for students with DHH and other disabled students.

Teachers' preparation

This study suggests the need to understand the nature and degree of students' hearing impairment, its effects, and the educational implications for general and specialist teachers in the classroom. According to Marschark et al. (2011), by identifying the strategies and materials teachers can employ and the ways in which they match the cognitive abilities of students with DHH, it is more possible to enhance their academic and social outcomes. Marschark et al. (2011) state that to ensure effective inclusion, teachers need to learn to accommodate

the needs of students with DHH on an everyday basis, and this being so, Saudi Arabia's Ministry of Education might wish to consider offering training courses for general teachers in schools transitioning to inclusivity to increase their capacity to teach students with DHH in the mainstream classroom. According to the findings of this study, teachers constitute a key element in improving academic and social inclusion for students with DHH. Such training courses could be provided by professionals or specialist teachers who possess a qualification in teaching students with DHH, and could offer information about definitions, categories, and audiological information of the possible educational, social, and emotional impact of hearing impairments on students with DHH. If teachers are aware of the impact of hearing loss on classroom performance, they will be better positioned to know what kind of assistance they should offer to maximise all students' potential in the inclusive setting.

Another suggestion of this study is the importance of the general teacher's awareness of the differences between students with DHH. For instance, students with DHH with a similar loss in their hearing faculty do not necessarily have the same language and communication skills. In this study, for example, some students have difficulties with both spoken and signed language, and prefer to employ written means of communication, even when they have only mild hearing loss. Furthermore, the findings of this study indicate that some participants prefer to use sign language in the classroom in combination with spoken language, and prefer to receive instruction from general teachers who also use sign language, thereby boosting their general level of understanding. This finding implies that providing teachers with training about modes of communication with students with DHH may lead to an improvement in the latter's academic and social participation, and therefore this study recommends that teachers and advisors

discuss and develop a united vision concerning the use of sign language in the inclusive setting. In addition, the lack of confidence often displayed by students with DHH in the mainstream setting is typically a result of their speech difficulties, and therefore students with DHH expressed the desire to be encouraged by mainstream and special teachers to participate both socially and academically.

This study also argues that to build up a cooperative and supportive environment in the mainstream classroom, teachers would be taught how to develop good relationships with their students with DHH, and encourage the latter's hearing peers to establish similarly positive relationships. To this end, teachers working with students with DHH and hearing students in the mainstream classroom could implement strategies that help to promote positive interactions between both groups, and support the former's participation in classroom activities (Stinson & Liu, 1999).

This study further proposes that general and specialist teachers be offered training in methods of cooperating and helping each other as they support students with DHH in the inclusive classroom. Specialist teachers typically have more experience about deafness, and could have a positive role to play in planning sessions alongside general teachers to manage the lessons. However, specialist teachers might not have enough knowledge to teach subjects or manage whole classes, therefore, Clough and Lindsay (1991) argue that specialist and general teachers are important co-workers in the provision of advice to general teachers concerning how to make a particular topic accessible to students with disabilities.

Teaching strategies

One practical implication of this study is that teachers' teaching strategies play an important role in determining students with DHH classroom access and participation, and therefore teacher training should encompass information that touches on these issues. NDCS (2015) suggests that to develop teaching strategies that support students with DHH, teachers should be aware of students with DHH rate of language development, both written and spoken, and the fact that they typically possess smaller vocabularies and a more limited understanding of words and concepts. DHH teachers in Saudi Arabia could be better supports to students with DHH by developing strategies and teaching methods in the classroom, and implementing a range of inclusive teaching strategies to assist all students; to this end, a number of specific strategies can be outlined that seem to be useful in teaching students with DHH:

- Students with DHH desired to be seated towards the front of the classroom, given their frequent reliance on lip-reading, visual clues, or the use of a hearing aid with a limited range. Some students with DHH, however, may not be comfortable with this suggestion or may prefer alternate strategies, which may respect their choices.
- To be effective teachers, it seems important that teachers develop their language skills, for example, sign language and lip speaking in order to better communicate with and understand students with DHH.
- Repeating questions asked by students in the classroom by teachers, before giving a response, could help students with DHH in the classroom.
- Teachers need to avoid background noise which may make it difficult to hear by hearing aid users because they are more distracted by background noise than hearing people. For example, by controlling the

other students surrounding noises and by closing the classroom windows to limit the background noises.

- Establishing mixed focus and small groups by teachers in the classroom could improve the participation for students with DHH.
- In order to boost visual access to information as much as possible, students in this study suggested that teachers should make use of board notes, handouts, course books, multi-media materials, other students' notes, and pictures.
- Teachers need to ensure that they do not speak when facing the board, because doing so will add to the difficulties of lip-readers.

The above strategies and recommendations are significant to create a supportive environment for students with DHH. 'If a deaf child is to be individually included in a mainstream school then the onus must be on the school to adapt the teaching and learning context appropriately' (Jarvis, 2002, P. 50). According to my observations in this study, some of these strategies were not adapted by teachers, which led the participants to express their needs for these changes. For example, the background noise in the classroom, the seating arrangements, the visual access and the clear voice by teachers. Ongoing training for teachers would therefore seem necessary to improve the teaching and learning in the mainstream classrooms.

Hearing peers' awareness

Peer relationships, feelings of acceptance by other members, and a sense of belonging to a group are very important during adolescence (Cambra, 2002), and it could be argued that hearing students in inclusive settings who study alongside peers with DHH should be educated about deafness and hearing impairments by school staff and specialist teachers in order to build up positive

attitudes and relationships. This could be done by conducting cooperative activities that strengthen social relations among all students and at the same time, improve students with DHH communication skills and cognitive capacity.

Preparing the physical environment

Mainstream schools that include students with DHH are usually designed for the regular education of students who are able to hear in the usual manner. If they are to become inclusive schools that educate students with DHH in mainstream classrooms, it would seem that these schools should be prepared by the provision of facilities and equipment that enable the education of everyone present, including students with DHH.

This study suggests that the employment of specialist teachers in the inclusive school support students with DHH in the mainstream classroom, given that some students with DHH may need extra teaching to ensure success. Such services are typically provided outside the classroom (in a 'pull-out' fashion). Specialist teachers need not only offer support to students with DHH; they can also aid general teachers by planning sessions together, giving advice, and sharing experiences. In Saudi Arabia, most of the mainstream schools that include students with DHH employed special teachers. However, as indicated in chapter five, some participants in this study were educated in general schools where there were no special teachers, which affect their learning.

Another finding of this study is that students with DHH communication skills are an important factor in terms of their academic and social experiences, and therefore this study suggests employing speech-language pathologists to improve their communication skills by means of individual speech therapy. As indicated in chapter three Al-Mousa, (2007) indicated that the provision of speech

therapy units will be available in mainstream and special schools, however, still this is not available in all mainstream Saudi schools, and Al Kauthar school where the study was conducted is one of those schools that did not employ a speech-language pathologist.

The finding of this study indicated that one of the students with DHH barriers in the inclusive setting is the noise and distribution in the mainstream classrooms while the teachers were teaching. Therefore, this study suggests that it would prove beneficial if education authorities were able to offer the latest hearing support technologies such as microphones that link up through Frequency Modulation (FM) systems, sound field systems, or remote microphone hearing assistance technology (HAT) which were not found to be in use in the schools in which this study was conducted. These technological devices are linked to students with DHH hearing devices to enhance sound quality, and thereby improve their ability to learn, especially in the context of noisy classrooms. A study by Iglehart (2004) reported improved speech perception by students using cochlear implants with desktop and sound field FM systems. Additionally, it has been indicated that the use of (HAT) is the most effective method to improve speech recognition in mainstream classrooms with challenging acoustics (Wolfe, Neumann, Marsh, Schafer, Lianos, Gilden, O'Neill, Arkis, Menapace, Nel, & Jones, 2015) and can be a key factor that enables students with disabilities to participate in daily life and be included in society (Schneidert, Hurst, Miller, & Üstün, 2003). The recommendation of using these hearing support technologies in this study came from the participants complaining about the background noise in mainstream classroom, which affect their participation in the classroom.

This study suggests also that to minimise the noise levels in general classrooms, which was commented on by students with DHH, schools need to adapt mainstream classrooms for students with DHH to make sure that the environment is suitable for their needs. This could be done by improving the listening environment such as by putting carpets on floors, covering walls with carpet pieces, and hanging shades or curtains on tall windows; these are all techniques by which a classroom can be adapted to ensure that hearing aids can work optimally.

7.4 Limitations and the strengths of the study

Despite the interesting findings of this study concerning the complexity of educating students with DHH inclusively, and the various factors that influence students with DHH experiences both academically and socially, this research does possess a number of limitations, as do all studies. These limitations can stem from the methodology, research design, sample size or constituency, or data collection methods used in any given research, while other limitations may be related to the geographical area in which a study is carried out.

One limitation of this study, for instance, was that in order to gain access to inclusive schools in Saudi Arabia, I was required to follow a lengthy procedure to obtain permission from the education authorities in the city in which the researcher wished to conduct the study. Given that these arrangements demanded a great deal of time and effort, I chose to focus on one mainstream secondary school in one city in the kingdom. The city I chose was one in which I had previous experience teaching students with DHH in mainstream and specialist schools, and I felt that I was well positioned to explore the issue of inclusion among students with DHH.

The number of participants involved in this study is quite low (only 17 participants including 12 students with DHH and 5 teachers). As indicated in chapter four, the school where the study conducted includes more than 12 students with DHH, but, I have excluded three students with DHH from the cases because of their additional disabilities, which may account one of the limitations of this study. I choose to exclude those students because this study focused on students with DHH and the additional disabilities may affect their experiences in the inclusive setting because of the other learning challenges. However, this small, in-depth study yielded profound insight into the issues facing students with DHH in terms of inclusion in Saudi schools.

The study encompassed students with DHH, general teachers, and specialist teachers for students with DHH. My study did not include the parents of the students with DHH due to the limited time available, and the difficulties inherent in meeting the parents and conducting interviews with them, thereby limiting the variety of participants who contributed to the study. The parents of students with DHH could add more data about their children difficulties, barriers, personality in the house, and other information that just parents could have.

Another limitation concerns the education system in place in Saudi Arabia, which separates schools by gender, and the rule that female researchers are not allowed to access male schools. My study necessitated interviews and observations, which being a female researcher, I was unable to conduct in male schools, and therefore my research was conducted in a female-only mainstream secondary school. The involvement of male students and staff in the study could well have yielded another dimension to this research.

For the purposes of this study, I conducted 24 semi-structured interviews with students with DHH (each one was interviewed twice), five interviews with teachers who taught students with DHH (two general teachers and three specialist teachers), and 24 observations of students with DHH (two sessions for each case) and a focus group. Although the interviews and observations were beneficial in terms of gaining deep and varied opinions and perspectives from students with DHH and teachers, more observations in different subjects and places such as the school playground could well have given rise to additional and valuable findings.

On the other hand, there are three main strengths to the present study. The first is that to a certain extent, this study has addressed the gaps in the literature mentioned previously, concerning the inclusion of students with DHH in the mainstream classroom; this has been done by exploring the nature of inclusion for students with DHH, and how they make sense of their experiences in the inclusive setting. That such a range of gaps has been covered in one single study is a particularly strong point of this study in the field of inclusion for students with DHH.

Another strength lies in the in-depth data this study has yielded, due to its interpretive approach and research design (multiple case studies). As indicated in chapter three, I pursued a multiple-case study design due to its potential to generate valuable data (Yin, 2003) and enhance the study's overall trustworthiness (Miles & Huberman, 1994). This approach allowed the author to examine processes and findings to be found in common across the various cases, and identify how individual cases might be affected by specific conditions. This study was performed to understand and learn from the participants with DHH in inclusive settings, in terms of their experiences, the meanings they attribute to

them, and how they interpreted the experiences; this being so, the qualitative data collection method was employed to explore and do justice to these perceptions and the complexity of the students' interpretations. As indicated in chapter three, the qualitative methods of data collection employed included individual semi-structured interviews, observations, and focus groups, which are among the main data collection methods used in qualitative research. These methods were used to exploit their respective benefits and minimise the study's limitations (Guba, 1981; Brewer & Hunter, 1989), thereby improving the overall trustworthiness of the study.

My own background, qualifications, and experiences inform my credibility as a researcher, which is important in qualitative research. According to Patton (1990), this is because the researcher is the major instrument of data collection and analysis. In addition this insight into the 'best' methods of establishing positive relationships with them. Furthermore, in the course of my master's degree, I conducted research in a mainstream primary school among students with DHH, which was located in the same city in which the current research was completed. This being so, I had previously taught some of the participants in the current study, and had already established a good relationship with them. This experience ensured that I already possessed insight into the issue of students with DHH and inclusion, which helped me to better understand the situation applicable to this thesis.

7.5 Recommendations for future research

The present study offers a number of recommendations for future research. Firstly, this study only explored the experiences of students with DHH students in one female secondary school, and it is equally important to explore

the experiences of male students with DHH in mainstream secondary schools, as well as exploring students with DHH experiences in special schools for deaf students in order to enable a comparison of such students' experiences. Secondly, this study only encompassed five teachers (two general and three specialist teachers) as additional data sources, and therefore future studies could benefit from examining the experiences of head teachers, parents, and hearing students. In addition, the current study utilized an interpretive approach to explore the experiences of students with DHH in the inclusive setting. Other interpretive research may offer more in-depth details about the relationship between oral speech and attitudes toward inclusion. Furthermore, another in-depth study may look for the best environment for inclusive schools from the teachers, professionals, and students with DHH views. It is also interesting to investigate whether there is a two way relationship between academic and social inclusion and sense of belonging.

7.6 Conclusion

This small, in-depth research has focused on experiences of inclusion among students with DHH, and I hope it will inform future improvements to the inclusive educational system in place in Saudi Arabia and other countries. I also hope that this research has covered some gaps in the area of knowledge about inclusion for students with DHH, and has touched on other gaps that need to be covered in additional research. This study has highlighted some of the positive and negative aspects of inclusion, and should act as a pointer towards further studies.

This study helped me to understand the complexity of inclusion, not just in Saudi Arabia, but also in the UK and other countries. As a previous teacher for

students with DHH in mainstream school and special school for the deaf for five years and living for almost seven years in England and carrying out this study and attaining my master's degrees in this field, provided me with a huge experience and knowledge which I hope will help me to use to develop the educational system in Saudi Arabia. Studying in England and visiting mainstream schools in my master's degree opened my mind about the inclusion for students with DHH in Saudi Arabia and encouraged me to think about the current situation which led me to conduct this thesis. This study will be my starting point for carrying out further research in the field of the inclusion for students with DHH in the near future.

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Appendices

Appendix 1

First interview questions for students

Areas to be covered in the First-Stage Interviews

The participants will be asked to provide information on eight themes:

Their education (mainstreaming or special school for the deaf)

School experiences (feelings, emotions, general comments, reflections, etc.)

Relationships (teachers, peers, etc.)

Practices of teachers

Participation in learning, and school activities

Exams

Support

The participants will be asked some questions. (The questions were not necessarily asked in the same order

every time. Also, modifications to the questions were made based on the educational background

of the participant).

- Where did you start your education? In mainstream or in school for Deaf?
- If you start your education in special school for Deaf, Can you make a comparison between these situations?
- What do you like and dislike in both situations?
- Can you talk generally about your experiences in school (secondary)?
- What feelings arose as a result of your attendance in this school?
- Can you describe the way that your school(s) support you (e.g resource room, head teacher, teacher assistants, and individualised plan)?
- Was it beneficial to you? Why?
- Have you been in any difficulties or problems?

- Take me to me about your relationship with your teachers/peers?
- Can you tell me about your friends in school?
- Have you made friends at your secondary school? What has helped you to make friends?
- How do you feel about the other students at your secondary school?

Appendix 2

Teachers interview questions

Teacher's interview

How would you describe [student X]?

What were you told about [student X] before they joined the school? Were you made aware of [student X]'s needs?

Have you received any training or support around Deaf and Hard of Hearing and supporting children with Hearing Impairment in school?

How would you describe [student X]'s experiences of secondary school? (Prompt, academically, relationships with teachers, relationships with peers)

Can you describe the mechanisms and structures that have been put in place to support [student X] within your school?

In your opinion, what have been the key features that have supported [student X] to have as positive an experience of secondary school as possible?

In your opinion, what have been the main obstacles and barriers impacting on [student X]'s experiences of secondary school?

Are there any specific features of [student X]'s Hearing Impairment condition that you feel may have impacted / be impacting on their experiences of secondary school? (PROMPT: anxiety, IQ, severity of Hearing disability/social communication difficulties)

Overall, what do you feel could have been done differently for [student X] to support their experiences of secondary school?

What do you feel could be done differently now to support [student X]'s experiences of secondary school going forwards?

What kind of changes or improvements would you like to see made to the current secondary school arrangements that are in place?

What kind of things might need to change to support the experiences of other children with Hearing Impairment condition within secondary school in the future?

Before we finish, can I ask you about [student Y] or leave it later?

(If yes, same questions will be repeated about the [student Y].

Is there anything else you wish to say or share that we haven't already covered. Is there anything you wish to ask me at this stage? Thank you very much.

Appendix 3

Observation schedule

Observation schedule

Date _____	Name of student _____
Time _____	Lesson _____
Teacher _____	Teacher's assistant _____

Notes:

Appendix 4

Information sheet and consent form for students



INFORMATION SHEET AND CONSENT FORM FOR RESEARCH

For students

Title of Research Project

Pupils who are Deaf and Hard of Hearing: Experiences of Inclusion within a Mainstream Secondary School in Saudi Arabia

Details of Project

This project focuses on the one mainstream secondary school in Saudi Arabia and seeks to explore the experiences of female students with deaf and hard of hearing, asking about their feeling, motivation, support, and their relationship with peers and teachers. In addition, this project will include teacher's views about the inclusion of, and experiences of, students with deaf and hard of hearing.

The research project involves a number of different methods– a semi structured interview with students and teachers, classroom observations for students, and focus groups with students.

What your participation will involve

I would like to ask you to take part in two one to one interview-conversations with me and to be observed in two lessons.

I anticipate that both interviews will take about 20- 30 minutes – one at the beginning of the week and one at the end. The interviews will be about your experiences in this secondary school, for example, your feelings, motivation, support, and your relationship with peers and teachers. I would like to audio record these so we have a record of the information.

The observations will be conducted in two different full sessions in the week. I will observe how you are involved in the classroom session and activities and how teachers and peers support you.

The focus groups will be conducted after the interviews and observations.

What I will do with the data

All information will be anonymised and effort will be made to ensure participants are not identifiable. In addition, all the information will be stored as secure material in my password protected laptop and will not be made available to anyone else other than my supervisors. After the PhD completed all these information will be deleted.

Your participation in this study is completely voluntary and you have the right to refuse to take part or answer any of the questions. You will have a chance to discuss any questions you have about the study with me.



**INFORMATION SHEET AND CONSENT
FORM FOR RESEARCH**

**Pupils who are Deaf and Hard of Hearing: Experiences of Inclusion within a Mainstream
Secondary School in Saudi Arabia**

I have been fully informed about the aims and purposes of the project.

I understand that:

There is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation.

I have the right to refuse permission for the publication of any information about me.

Any information which I give will be used solely for the purposes of this research project, which may include publications.

If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form.

All information I give will be treated as confidential.

The researcher(s) will make every effort to preserve my anonymity.

.....
(Signature of participant)

.....
(Date)

.....
(Printed name of participant)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher.

Contact phone number of researcher: 00966555930703

If you have any concerns about the project that you would like to discuss, please contact me, Fatema Almulhem: 00966555930703 OR send an email to: faaa202@exeter.ac.uk

Or contact my supervisor: Professor Hazel Lawson
Director of Education, Special and Inclusive Education
St. Lukes' Campus, University of Exeter, Heavitree Road, Exeter EX1 2LU. H.A.Lawson@exeter.ac.uk

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Appendix 5

Information sheet and consent form for students



GRADUATE SCHOOL OF EDUCATION

Appendix C

INFORMATION SHEET AND CONSENT FORM

For parents

Deaf and Hard-of-Hearing Students' Experiences in a Secondary mainstream school in Saudi Arabia.

Who I am

My name is Fatema Almulhem and I used to be a teacher for Deaf and Hard of Hearing students. I am a PhD student at the University of Exeter now, and this is a part of my PhD study.

Details of Project

This project focuses on one mainstream secondary school in Saudi Arabia and seeks to explore the educational experiences of Deaf and Hard of Hearing female students, asking about their feelings, motivation, support, and their relationship with peers and teachers. In addition, this project will include teachers' views about the inclusion of, and experiences of, Deaf and Hard of Hearing students.

The research project involves two different methods: interview-conversations with students and teachers, as well as classroom observations of students.

What the participation of your daughter will involve

I would like to have your permission to include your daughter in the research in two one-to-one interview-conversations and to be observed in two lessons.

The observations will take place in two different full sessions. I will observe how your daughter is involved in the classroom session and activities and how teachers and peers support her.

I anticipate that both interview-conversations will take about 20- 30 minutes – one at the beginning of the week and one at the end. The conversation will be about your daughter's experiences in this secondary school, for example, her feelings, motivation, support, and her relationship with peers and teachers. I would like to audio record these so we have a record of the information.

All participants will be anonymised and effort will be made to ensure participants are not identifiable.

Your daughter's participation in this study is completely voluntary and she will have the right to refuse to answer any questions. You will have a chance to discuss any questions you have about the study with me at any time. Your daughter's consent will also be sought.



**INFORMATION SHEET AND CONSENT
FORM FOR RESEARCH**

**Pupils who are Deaf and Hard of Hearing: Experiences of Inclusion within a Mainstream
Secondary School in Saudi Arabia**

I have been fully informed about the aims and purposes of the project.

I understand that:

There is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation.

I have the right to refuse permission for the publication of any information about me.

Any information which I give will be used solely for the purposes of this research project, which may include publications.

If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form.

All information I give will be treated as confidential.

The researcher(s) will make every effort to preserve my anonymity.

.....
(Signature of participant)

.....
(Date)

.....
(Printed name of participant)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher.

Contact phone number of researcher: 00966555930703

If you have any concerns about the project that you would like to discuss, please contact me, Fatema Almulhem: 00966555930703 OR send an email to: faaa202@exeter.ac.uk

Or contact my supervisor: Professor Hazel Lawson
Director of Education, Special and Inclusive Education
St. Lukes' Campus, University of Exeter, Heavitree Road, Exeter EX1 2LU. H.A.Lawson@exeter.ac.uk

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Appendix 6

Example of the initial analysis for the data (observation notes)

Date: 29/1/2017	Name of student: Fateen (not real name)
Time: 9:00 AM - 9:45 AM	Lesson: geography
Teacher: S A	Teacher's assistant: did not attend

Notes:

Fateen set with hard of hearing students in the same group (3 hard of hearing and 1 hearing students)

Commented [AF1]: The place in the classroom

There is another hard of hearing student sat with another group with hearing peers

The teacher start writing on the board and she ask the students to put their books on the table

Commented [AF2]: Teacher method of teaching

Commented [AF3]: Teacher instruction

Fateen already puts here book on the table before the teacher ask

Commented [AF4]: Fateen following the instruction

Teacher start teaching

Commented [AF5]: Teacher's action

Fateen takes out the rest of her notebook from her bag

Commented [AF6]: Fatima's following the instruction

The teacher asks questions about the previous lesson and ask the students to answer alphabetically

Commented [AF7]: Teacher check the last lesson understanding

Commented [AF8]: Teacher way to participate students

Fateen opens here notebook

Commented [AF9]: Fatima's action

The teacher again asks the students to answer alphabetically

Commented [AF10]: Teacher way to participate students

Fateen again opens her notebook

The teacher repeats the answers

Commented [AF11]: Teacher way to make sure the answer is heard

Fateen looks at her teacher

Commented [AF12]: Fatima's attention

The teacher asks another question

Fateen again looks at her notebook

Commented [AF13]: Fateen's action

Some students rise their hands

Commented [AF14]: Students participation

Fateen did not raise her hand

Commented [AF15]: Fateen's un participation

Appendix 7

MAXQDA software

The screenshot displays the MAXQDA software interface. At the top, the 'Document System' pane shows a list of documents, with 'Case 2 Fatem' selected. Below this, the 'Code System' pane lists various codes such as 'homework', 'hard of hearing history (family)', 'student confidence', 'student writing', 'amnoyance', 'join in University', 'student follow the teachers', 'hearing students effects', 'students ability to see and hear in the classroom', 'the nature of groups in mainstream classroom', 'special classroom', 'special classroom usage', 'the advantages of special classroom', 'reason of lack of participation', 'participating in school activities', and 'general teacher attempts to participate students'. The main window shows a 'Document Browser: Case 2 Fatem' with a timeline visualization. The timeline is labeled 'المقالة 1 مع فئات 20 دقيقة' (Article 1 with 20 minutes of categories). It features several colored lines representing different codes applied to text segments. Key codes visible include 'special teacher support', 'participating in the classroom', 'students difficulties', 'background learning', 'Dear mother information mothers opinion', and 'mainstream without special support'. The text segments are numbered 1 through 19, with corresponding Arabic text snippets visible below the timeline.

Appendix 8

The ethical approval from the University of Exeter



GRADUATE SCHOOL OF EDUCATION

St Luke's Campus
Heavitree Road
Exeter UK EX1 2LU

<http://socialsciences.exeter.ac.uk/education/>

CERTIFICATE OF ETHICAL APPROVAL

Title of Project: Deaf and Hard-of-Hearing Students' Experiences in a Secondary mainstream school in Saudi Arabia

Researcher(s) name: Fatema Almulhem

Supervisor(s): Hazel Lawson

This project has been approved for the period

From: 18th September 2016

To: 30th September 2019

Ethics Committee approval reference: D/15/16/51

A handwritten signature in black ink, appearing to read 'P. Durrant', with a stylized flourish at the end.

Signature: (Dr Philip Durrant, Chair, Graduate School of Education Ethics Committee)

Date: 8th July 2016

COLLEGE OF SOCIAL SCIENCES AND INTERNATIONAL STUDIES

When completing this form please remember that the purpose of the document is to clearly explain the ethical considerations of the research being undertaken. As a generic form it has been constructed to cover a wide-range of different projects so some sections may not seem relevant to you. Please include the information which addresses any ethical considerations for your particular project which will be needed by the SSIS Ethics Committee to approve your proposal.

Guidance on all aspects of the SSIS Ethics application process can be found on the SSIS intranet:

Staff: <https://intranet.exeter.ac.uk/socialsciences/staff/research/researchenvironmentandpolicies/ethics/>

Students: <http://intranet.exeter.ac.uk/socialsciences/student/postgraduateresearch/ethicsapprovalforyourresearch/>

All staff and students within SSIS should use this form to apply for ethical approval and then send it to one of the following email addresses:

ssis-ethics@exeter.ac.uk This email should be used by staff and students in Egenis, the Institute for Arab and Islamic Studies, Law, Politics, the Strategy & Security Institute, and Sociology, Philosophy, Anthropology.

ssis-gseethics@exeter.ac.uk This email should be used by staff and students in the Graduate School of Education.

Applicant details	
Name	Fatema Almulhem
Department	Department of Education
UoE email address	Faaa202@exeter.ac.uk

Duration for which permission is required		
You should request approval for the entire period of your research activity. The start date should be at least one month from the date that you submit this form. Students should use the anticipated date of completion of their course as the end date of their work. Please note that <u>retrospective ethical approval will never be given.</u>		
Start date:18/09/2016	End date:30/09/2019	Date submitted:19/05/2016

All students must discuss their research intentions with their supervisor/tutor prior to submitting an application for ethical approval. The discussion may be face to face or via email.	
Prior to submitting your application in its final form to the SSIS Ethics Committee it should be approved by your first and second supervisor / dissertation supervisor/tutor. You should submit evidence of their approval with your application, e.g. a copy of their email approval.	
Student number	610054088
Programme of study	Doctor of Philosophy (PhD)
Name of Supervisor(s)/tutors or Dissertation Tutor	PROFESSOR HAZEL LAWSON

c:\Users\rld211\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\7IPAP3KP\Fatema Almulhem_Ethics_Application_form_FINAL (Almulhem%2c Fatema) (1).docx

<p>Have you attended any ethics training that is available to students?</p>	<p>Yes, I have taken part in ethics training at the University of Exeter For example,; i) the Research Integrity Ethics and Governance workshop: http://as.exeter.ac.uk/rdp/postgraduateresearchers ii) Ethics training received on Masters courses If yes, please specify and give the date of the training: Understanding research ethics: SSIS PGR workshop 29/10/2015</p>
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Certification for all submissions

I hereby certify that I will abide by the details given in this application and that I undertake in my research to respect the dignity and privacy of those participating in this research. I confirm that if my research should change radically I will complete a further ethics proposal form.

Fatema Almulhem

Double click this box to confirm certification

Submission of this ethics proposal form confirms your acceptance of the above.

TITLE OF YOUR PROJECT

Deaf and Hard-of-Hearing Students' Experiences in a Secondary mainstream school in Saudi Arabia.

ETHICAL REVIEW BY AN EXTERNAL COMMITTEE

No, my research is not funded by, or doesn't use data from, either the NHS or Ministry of Defence.

If you selected yes from the list above you should apply for ethics approval from the appropriate organisation (the NHS Health Research Authority or the Ministry of Defence Research Ethics Committee). You do not need to complete this form, but you must inform the [Ethics Secretary](#) of your project and your submission to an external committee.

MENTAL CAPACITY ACT 2005

No, my project does not involve participants aged 16 or over who are unable to give informed consent (e.g. people with learning disabilities)

If you selected yes from the list above you should apply for ethics approval from the NHS Health Research Authority. You do not need to complete this form, but you must inform the [Ethics Secretary](#) of your project and your submission to an external committee.

SYNOPSIS OF THE RESEARCH PROJECT

Maximum of 750 words.

The experiences and perceptions of special educational needs students in general and DHH students in particular has not been well explored in Saudi Arabia, resulting in a lack of understanding of some of the challenges and problems they face and how best to address them. This is particularly important in the context of inclusion and education for all in the Saudi education system. There is a need to understand DHH student's experiences in-depth, in order to uncover an explanation for their

perspectives. An analysis of their perspectives would obtain valid results. This requires an exploration of students' experiences in inclusive setting in Saudi mainstream schooling, and how inclusion could be improved. In addition, teachers' perceptions of DHH students and inclusion will enable further in-depth exploration.

The study aims to explore the experiences of DHH female students in one secondary school in Saudi Arabia in order to improve the processes and outcomes of inclusive education.

The overall aim of the research is to deepen understanding of how secondary female DHH student describe their experiences in Saudi Arabia in order to identify potential improvements (their feeling, motivation, support, and their relationship with peers and teachers).

The study will use interpretive approaches as part of a collective case study in order to fully explore this topic and to strengthen the interpretations. Interviews and observations will be the main data collection methods.

Main research questions:

- How do DHH students describe their experiences in inclusive setting in Saudi Arabia?
- How do these experiences influence their learning?
- How do these experiences influence their decisions to attend an inclusive or special school?
- How do teachers describe the experiences of DHH students in their mainstream school?

INTERNATIONAL RESEARCH

The data will be collected in Saudi Arabia. For that reason, permission will be obtained from the Ministry of Education in Saudi Arabia as well as permission from the school within which the research will be conducted. In order to have the approval, all the procedures and methods that will be followed will be sent and explained to the Ministry of Education.

The following sections require an assessment of possible ethical consideration in your research project. If particular sections do not seem relevant to your project please indicate this and clarify why.

RESEARCH METHODS

Semi-structured interviews and semi-structured observation will be used as data collection methods. The period of collecting data will be twelve weeks. In the first week all students will be gathered in order to explain the aim of the research and the procedures that will used in order to for them to be fully aware about the research. Each week will focus on one child. The child will be interviewed twice – once at the beginning of the week and once at the end of the week. Observations will be conducted twice for each student between the two interviews. I will use the same technique in the second week with another student in the same class room and so on. When all students in one classroom have been interviewed and observed, the main class room teacher will be interviewed. Each interview will take approximately 30 minutes to one hour. It may take more time for teachers because they will asked about more than one students during the interview. The place for conducting the interviews will considered by the main teacher of the class room. However, such interviews are usually conducted in the resource room. The interviews will audio recorded after taking the students' and teachers' permission. The main language for these students as well as teachers is Arabic, therefore, the interviews will recorded in Arabic language then will be translated to English for data analysis purposes.

For the observation methods, each child will be observed twice in different sessions. Each session takes 45 minutes in Saudi schools. Therefore, each observation will take 45 minutes. The observation will include the student's engagement in her class room, for example, in the class activity, the relationship with peers, how teachers include the DHH in the class, and the support that they receive in the class.

PARTICIPANTS

The participants will be Deaf and Hard of Hearing female students aged 16 to 19 years old from one secondary school female mainstream school in Al Hasa city in Saudi Arabia. The number of participants will depend on how many of these students in the school agree to participate, but it is intended that there will be at least 12 DHH female students and at least three main female teachers and the head teacher. This number of students and teachers may be limited because I assume that there will be difficulties to record the interviews with them as female in Saudi Arabia. However, the whole number of DHH students in the school for the year 2015/ 2016 is 16 female students as recorded in the school website, so 12 students is a good proportion. However again, this number may increase or decrease in the year after. This means that the suggested number of participants may increase or decrease. Guest, Bunce, and Johnson (2006) propose that saturation often occurs around twelve participants in homogeneous groups.

THE VOLUNTARY NATURE OF PARTICIPATION

The participants will be informed that participation is voluntary. The participants will be given sufficient information about the research aims and processes to them in order to understand the aim of the research and their position in the study.

The participants will not be subjected to any form of pressure and there will be no negative consequences if they decline. The information sheet will be presented in a clear way explaining that they do not have to take part if they do not want to and all students and teachers have the right to withdraw participation, if desired.

SPECIAL ARRANGEMENTS

Where appropriate, the information sheet and consent form for students will be read aloud by me as the researcher to make sure that students will understand the aim of the research and all the procedures. The researcher understands that all the students use oral language so they will not need an interpreter to explain the consent form, however, if some students need that, another specialised teacher will interpret the forms.

THE INFORMED NATURE OF PARTICIPATION

After obtaining the permission from the Ministry of Education in Saudi Arabia, general consent will be obtained from the head teacher of the school for the research to take place in the school. In addition, consent will be obtained from students and teachers face to face. Parents will also be informed and their consent sought by sending them the consent form with their children in an envelope to be then returned to me. The consent form will contain brief details of the research and processes and this will be in the first language of the participants and parents (Arabic language). All participants will be anonymous in any published outcomes and all data will be treated confidentially.

ASSESSMENT OF POSSIBLE HARM

Harm, detriment or unreasonable stress are not expected during data collection. The data will be about students' experiences so I expect that they will be comfortable to talk with me and, as a previous teacher of hearing loss students, I know how to communicate with them. Their teacher can be present if the students wish. However, if a student is distressed during the data collecting I will refer her to the social worker in the school to support the student.

DATA PROTECTION AND STORAGE

The data will be gathered and analysed specifically for the purposes of this research. I will use audio-recorded interviews and these will be stored as secure material in my password-protected laptop and will not be made available to anyone else other than my supervisors. The observation sheet will be stored in my locked drawer and will be destroyed after the PhD process. All data reported will be anonymised – the school, individual teachers or pupils will not be named and every effort will be made to ensure that people cannot be identified.

DECLARATION OF INTERESTS

There are no relevant interests to declare.

USER ENGAGEMENT AND FEEDBACK

Feedback about the research will be sent to the school after collecting data if they request it.

INFORMATION SHEET

The information sheet will be combined with the consent form. There are separate sheets and consent forms for students, parents and teachers.

CONSENT FORM

Please see Appendix A, B, and C

SUBMISSION PROCEDURE

Staff and students should follow the procedure below.

Post Graduate Taught Students (Graduate School of Education): Please submit your completed application to your first supervisor. Please see the submission flowchart for further information on the process.

All other students should discuss their application with their supervisor(s) / dissertation tutor / tutor and gain their approval prior to submission. Students should submit evidence of approval with their application, e.g. a copy of the supervisors email approval.

All staff should submit their application to the appropriate email address below.

This application form and examples of your consent form, information sheet and translations of any documents which are not written in English should be submitted by email to the SSIS Ethics Secretary via one of the following email addresses:

Appendix 9

The permission from the Ministry of Education in Saudi Arabia

بسم الله الرحمن الرحيم

الرقم : ٤٢٨٢

التاريخ : ١٤٣٧/٨ / ٩

المرشحات : -

وزارة التعليم
Ministry of Education

المملكة العربية السعودية
وزارة التعليم
الإدارة العامة للتعليم بمحافظة [redacted]
إدارة التخطيط والتطوير
البحوث التربوية

المكرمة / قائدة [redacted] وفقها الله

السلام عليكم ورحمة الله وبركاته

بناء على خطاب المحققة الثقافية السعودية فقيدكم بأن الباحثة / فاطمة عبدالله اللحيم والمبتعثة من قبل جامعة الدمام لدراسة الدكتوراه بجامعة أكستر البريطانية في مجال التربية - تعد دراسة بحثية بعنوان " خبرة الطالبات النضم وضعاف النسمع في مدارس الدمج في المملكة العربية السعودية " لدى طالبات النضم وضعاف النسمع ، قد تقدمت لطلب تسهيل مهمتها في تطبيق أدوات البحث في العينة المحددة من قبلها في الفترة ما بين ١٧ / ١٢ / ١٤٣٧ هـ إلى ١٧ / ٣ / ١٤٣٨ هـ الموافق من ١٨ / سبتمبر / ٢٠١٦ م إلى ١٦ / ديسمبر / ٢٠١٦ م .

وعليه أمل التعاون مع والفسح للباحثة اعلاء لزيارة مدرستكم وتسهيل مهمتها البحثية .

والسلام عليكم ورحمة الله وبركاته

مدير إدارة التخطيط والتطوير

محمد بن سعود العمر

الرمز البريدي ٣١٤٨٢ _ سنترال ٥٨٠٢٣٠٠_ تحويلة ٦٨٢ فاكس : ٥٨١٥٠٦٤
www.hsaedu.gov.sa

