Can a web portal enhance collaboration between speech and language therapists and primary school teachers?

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A dissertation submitted to the University of Dublin, in partial fulfilment of the requirements for the degree of Master of Science in Health Informatics

2009

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Acknowledgements

I wish to thank the following:

- My supervisor, Lucy Hederman, for her excellent advice and guidance

- All of the participants, without their cooperation and generosity of time this study would not have been possible

- My managers, Lisa Ryan and Margaret Creevey, for providing the flexibility and support to enable me to undertake this research study

- My colleagues in HSE Local Health Office Dublin North Central for their kind words of encouragement along the way

- My friends and family for listening and providing distraction

- Noreen, for her patience, interest and continuous support

"The smallest act of kindness is worth more than the grandest intention"

Oscar Wilde

Summary

The objective of this study was to explore if the introduction of a web portal could potentially enhance collaboration between Speech and Language Therapists (SLTs) and teachers. No such web portal currently exists. A qualitative methodology was used with the aim of obtaining a deeper insight into the beliefs, perceptions and experiences of the participants including: what influences collaboration; what are the advantages and disadvantages of collaboration; what elements do SLTs and teachers consider necessary to be included in the design of a web portal to enhance collaboration; and what are the potential advantages, disadvantages and barriers to the use of a web portal for collaboration.

The data collected from twenty-four semi-structured interviews was analysed through a six-stage process of thematic analysis, as described by Attride-Stirling (2001). Four Global Themes were extracted from the data: desired specifications of the web portal; potential incentives to use the web portal; potential disincentives to use the web portal; and supports that could facilitate optimal use of the web portal. The desired specifications expressed by the informants included informational elements, supplementing a child's SLT record, supplementing school records, easy access to resources and links to other professionals and services. Potential incentives consisted of the advantages and benefits of collaboration, enabling more regular contact, having a written record of collaborative attempts, easier access to resources and information, increasing understanding of each profession's role, cost-savings, fostering positive relationships and integrating SLTs more into the education setting. Potential disincentives comprised of lack of funding for IT equipment and development of a web portal, lack of IT skills and knowledge, concerns around security, lack of time to use it due to existing workloads, a perception that it may not be necessary to collaborate for some children, and personality and attitudes. Supports that could facilitate optimal use included funding, training, IT support, supportive organisational structures

and policies, and having the web portal supplemented by other oral methods of communication.

The findings support previous investigations on the benefits and barriers to collaboration between SLTs and teachers. Furthermore, it has emphasised the perception of Irish SLTs and teachers that changes are needed to their current haphazard collaborative practices and the perception that blurring of boundaries between health and education are required.

No previous studies have explored the potential use of web portal for collaboration between SLTs and teachers. Hence, this study has provided the opinions of both professions on this innovative topic and added knowledge to both interest groups on the feasibility of using a web portal for collaboration and how it could be facilitated to maximise its advantages and minimise the obstacles. On the whole, the findings have indicated that SLTs and teachers would eagerly support the introduction of a web portal to enhance existing collaborative practices, but not to completely replace them. This was accounted for by an overwhelming majority feeling that face-to-face communication is superior and cannot be replaced by written or virtual communication, and a reluctance to put sensitive information in a written format.

Furthermore, this research study has clearly outlined the desired specifications for the web portal based on consultation with the intended users, thus providing a platform from where design and implementation could commence. The designers and implementers would also benefit from the study's findings in relation to potential incentives and disincentives, and supports that could facilitate optimal use of the web portal. Moreover, this research study provides direction for an iterative, multi-factorial evaluation that will be a vital component of the web portal implementation. Thus, ensuring the most successful adoption of this innovative proposal.

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Abbreviations

DES   Department of Education and Science

DHC   Department of Health and Children

HSE   Health Services Executive

IASLT   Irish Association of Speech and Language Therapists

ICT   Information and Communication Technology

SLT   Speech and Language Therapist

UK   United Kingdom

1 Introduction and Background

1.1 Speech, language and communication delays/disorders

Speech, language and communication delays/disorders are common amongst children. Studies of prevalence suggest a range from 1 to 15% (Law *et al.,* 2000). In areas of social deprivation this can be as high as 54% (Locke & Ginsborg, 2003). Research has shown that language difficulties negatively affect literacy skills (Bishop, 1994). Moreover, speech, language or communication difficulties can negatively impact upon academic achievement, and/or be associated with social, emotional and behavioural problems (Myers & Botting, 2008; Paradice *et al.,* 2007; Law *et al.,* 2003; Lindsay *et al.,* 2002). Speech and language therapy (SLT) is the allied health discipline concerned with the assessment, diagnosis and intervention of speech, language and communication delays/disorders.

1.2 Speech and language therapy

Children attending mainstream schools in Ireland who present with speech, language or communication difficulties can avail of local speech and language therapy services, if appropriate. The children are traditionally seen face to face, in groups or individually, and in settings such as local community health centres. This service is governed by the Health Service Executive (HSE), and ultimately regulated by the Department of Health and Children (DHC). Paper records are kept of each individual child who attends the service. The only information support system used is an electronic database of children referred and discharged from the service, usually in the form of a Microsoft Excel spreadsheet that includes demographic details of the children, date of referral, source of referral, coded assessment outcome, date of discharge and reason for discharge. Details about assessments administered, progress notes, reports and other client related information are stored on a child's paper record.

Referrals to community SLT service are commonly made by parents, public health nurses, general practitioners, psychologists and teachers. Collaboration between SLTs and other professionals frequently commences from this initial referral. SLTs inform referral sources of when a child will be offered an appointment and then communicate outcomes of assessments and plans for future interventions, once the child has attended. When a child is attending mainstream primary school, it is often appropriate to inform his/her teacher of outcomes and collaborate for intervention, regardless of whether they are the referral source or not. Children are supported in developing their communication skills, accessing the curriculum and maximising their learning opportunities, when SLTs collaborate with primary school teachers (Gascoigne, 2008; Tollerfield, 2003).

1.3   Primary school teachers

The vast majority of primary school teachers in Ireland work in state funded schools that cater for children from age four through to twelve years of age. These schools are governed by the Department of Education and Science (DES) and adhere to education legislation. Language is one of the five key areas of the curriculum (DES, 2004), and the Education Act, 1998, stipulates that every child, including those with special educational needs such as speech, language or communication disorders, should have access to appropriate support.

1.4   Collaboration between SLTs and teachers

Collaboration between teachers and SLTs is typically viewed as key to supporting school aged children with speech, language or communication difficulties (Gascoigne, 2008). In addition, there is evidence of benefits to the whole class, the school, the teachers and SLTs (Wren *et al.*, 2001). However, many barriers to collaboration at an individual and organisational level exist (Hartas, 2004). The following three fictitious scenarios, illustrate some of the difficulties met in attempting to collaborate, and how a web

portal exclusively for SLTs and teachers could potentially overcome these obstacles and result in many gains for each profession.

1.4.1 Scenario 1 (a)

Susan is a SLT working in a community setting. She has just seen a school aged boy for assessment who is presenting with a severe language delay. Susan feels this boy would benefit from placement in a special language class. She wants to talk to his class teacher about his academic performance, peer relationships, share results of her assessment, provide his learning support teacher with useful resources, and collaborate on appropriate onward referrals and intervention. Susan phones the school but the secretary informs her that the teacher is in class and will not be available to receive a phone call until 1.30 p.m. Susan's allocated lunch hour is 1 p.m. to 2 p.m. She tries calling the teacher at 2 p.m. but the secretary informs her the teacher has gone home. Susan leaves a message with the secretary asking the teacher to call her tomorrow. The teacher calls the following morning, but Susan cannot take the call as she is in the middle of a therapeutic session with a client. After a number of missed contacts and a delay of three weeks, Susan and the class teacher eventually get to talk on the telephone. However, due to the time delay, the deadline for the referral to the language class was missed.

1.4.2 Scenario 1 (b)

Orla is a SLT working in a community setting. The SLT department has recently introduced a web portal to ease collaboration with local primary school teachers. Orla has just seen a school aged girl for assessment who is presenting with a severe language delay. Orla feels this girl would benefit from placement in a special language class. She wants to ask her class teacher about her academic performance, peer relationships, share results of her assessment, provide her learning support teacher with useful resources, and collaborate on appropriate onward referrals and intervention. Orla logs on to the web portal and updates the girl's record with her attendance at the appointment, results of tests administered, next

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appointment date, and links to useful resources. Orla sends a web message to her teacher, including a suggestion about an onward referral and the reason why. The teacher sends her a message back giving her results of most recent class tests, academic performances and a description of the girl's presentation in school. She agrees that a placement in the language class would be beneficial and will start completing the necessary school report. In the meantime, her learning support teacher will print and use the resources suggested to help develop the girl's language skills.

1.4.3 Scenario 2 (a)

Tom is a 1st class primary school teacher who has concerns about four of his pupils and feels they would benefit from a speech and language assessment. Tom is unsure if the children were referred previously, if they are currently attending or waiting for speech and language therapy, if they were assessed and found to have no difficulties or if they were discharged because of non-attendance. In order to be sure, Tom decides to post in new referrals for all children. The SLT secretary has to write individual letters to each parent and to Tom explaining the status of each child. Tom is annoyed to discover two of the children were discharged for not attending appointments in the previous term. If the school has been aware of their appointments, he knows he would have been successful in supporting their attendance. Now the two children will have to go back on a waiting list for assessment, delaying necessary intervention.

1.4.4 Scenario 2 (b)

Mark is a 1st class primary school teacher who has concerns about four of his pupils and feels they would benefit from a speech and language assessment. The local SLT department has recently introduced a web portal to ease collaboration with local primary school teachers. Mark logs on to the web portal, and notes that only two of the pupils were previously referred to the SLT service. Mark sees that they have SLT appointments in January and makes a note in his diary. Mark prints off the language resources suggested and plans to complete them with the whole class on

Friday, specifically targeting the individual pupils. Mark forwards the new referral and consent forms for the two pupils who had not been referred, sending a message to the SLT that both pupils are being teased in school because of their speech. He later gets a reminder of when their assessment appointment is and can check the outcome of their assessments, and obtain useful resources to assist in intervention.

1.4.5   Scenario 3 (a)

Noreen is a SLT working closely with Karen, a learning support teacher in a local primary school. A screening of all the junior infant pupils indicated that the majority had a language delay. As a result, Noreen and Karen are collaborating on piloting a class-based language intervention programme in the Junior Infants class. Once a week, Noreen travels to Karen's school (30 minutes away) to discuss and brainstorm what the class lesson will consist of, each person bringing possible resources and equipment they can use. Due to budget restraints, Noreen's employer has had to stop all clinicians travelling. Noreen and Karen attempt to continue their collaboration over the phone and by posting resources to each other, but eventually abandon the programme because of frustration of lack of understanding each other's perspective.

1.4.6   Scenario 3 (b)

Lorraine is a SLT working closely with Mary, a learning support teacher in a local primary school. A screening of all the junior infant pupils indicated that the majority had a language delay. As a result, Lorraine and Mary are collaborating on piloting a class-based language intervention programme in the Junior Infants class. A recent ban on travel by Lorraine's employer has had minimal impact on the intervention, in comparison to the negative effects on other services. The collaborative language programme is facilitated by using a web portal recently introduced by the SLT department. The SLT and learning support teacher upload the plans, resources, activities and materials they have on the decided topic allowing for understanding of each other's perspective, which is enhanced by

messages attached to the resources. The school principal is impressed when she reads the plans and discussions and encourages the other Junior Infants class to benefit from the work completed to date.

1.5 Research question

As illustrated above, collaboration is a necessary part of SLTs and educational professionals' role and has copious advantages. However, barriers to this collaboration are also plentiful. The introduction of a web portal exclusively for SLTs and teachers could potentially help to overcome some of the current barriers to collaboration and furthermore enhance what is presently common practice. Ultimately, this could lead to better support and outcomes for children with speech, language or communication difficulties. No such web portal currently exists.

Hence, this research study will aim to explore the personal opinions of two groups of people (SLTs and educational professionals) to help investigate "can a web portal enhance collaboration between SLTs and teachers?" including: what influences collaboration; what are the advantages and disadvantages of collaboration; what elements do SLTs and teachers consider necessary to be included in the design of a web portal to enhance collaboration; and what are the potential advantages, disadvantages and barriers to the use of a web portal for collaboration.

1.6 Overview of the research

The following sections of this dissertation will describe in more detail: a review of the relevant literature (chapter 2); the methodology used (chapter 3); the results obtained from the data (chapter 4); how the results relate to the existing literature and implications for designing, building and using a web portal (chapter 5); and conclusions, limitations and directions for future studies (chapter 6).

2 Literature Review

The following literature review will discuss from previous studies: definitions of collaboration and the benefits and barriers associated with it; the use of ICT by teachers and SLTs; web portals and the potential advantages and disadvantages of their use to enhance collaboration.

2.1 Defining collaboration

Collaboration can vary from a sporadic once off phone call to intensive, structured working practices. As there is such variation, numerous different definitions of collaboration can be found in the literature. Some authors claim that emphasis should be placed on the interpersonal relationships between the professionals collaborating, including mutual respect (O'Toole & Kirkpatrick, 2007). Other academics suggest collaboration is the extent of knowledge and expertise shared, which leads to acceptance of different points of view and a shared frame of reference (Hartas, 2004; Lindsay & Dockrell, 2002). Subsequently, the degree to which common goals and objectives are planned and reached is implied (Nunamker, 2001; McCartney, 1999). Effective joint working is also a common theme (Gascoigne, 2008; Lindsay & Dockrell 2002). Law *et al.* (2002, p.2) establish a definition of effective collaboration between SLTs and teachers that succeeds in encompassing the above:

> "where the professionals involved have a clear understanding of each other's roles; where therapists are prepared to take account of the educational context; where teachers understand the importance of language to the whole curriculum, and where school systems support therapists' involvement".

2.2 Collaboration in context

Numerous policies and legislation exist which advocate for collaboration between SLTs and teachers. Some of these policies are specific to a profession, while others are detailed in national guidelines. The Irish Association of Speech and Language Therapists (IASLT, 2006) recognise

that collaboration is a fundamental role of SLTs, stating "almost without exception, (they) work alongside and with other professionals and individuals as part of a multi-disciplinary team to ensure the most holistic and complete care of their clients". The Department of Education and Science (2005) stresses that there should be "strong partnership" between teachers and SLTs when working with children with speech and language disorders. In a national context, the 'Agenda for Children's Services" (Department of Health and Children, 2007) expresses a commitment to improving the quality of children's lives through delivering integrated services and specifies the importance of joint, cross-agency and multidisciplinary working. It states:

> working together can ensure a clearer focus and more accurate targeting of services. It can also make for more cost-effective delivery through avoiding duplication, combining impact and getting synergy through the sharing of information and the cross-fertilisation of ideas…and more impact achieved to ensure good outcomes for children (p. 26)

This document also summarises a range of national policy documents in relation to children, many of which have collaboration as a central theme (see Table 1 below).

Table 1: National policy documents in relation to children. Adapted from Department of Health and Children (2007)

Policy	Details
The National Children's Strategy: Our Children- Their Lives (DHC, 2000)	It proposes a more holistic way of thinking about children
Primary Care – A New Direction (DHC, 2001a)	It proposes the introduction of an interdisciplinary team-based approach on a phased basis
National Action Plan for Social Inclusion 2007-2016: Building an Inclusive Society (Dept. of Social and Family Affairs, 2007)	It proposes greater coordination and integration of structures and procedures across government at a national and local levels, including specific targets and actions relating to children
Disability Act 2005: Sectoral Plans for the Department of Health and Children and the Health Services (DHC, 2006)	It proposes mainstreaming and social inclusion

2.2.1 Benefits of collaboration

The diverse benefits of collaboration have been recognised for years. Hartas (2004) documented positive influences of collaboration at an individual level, client level, professional level and at an organisational level. Similarly, Wren *et al.* (2001) describes various advantages of collaboration that are child based, class based, school based and teacher/therapist based.

For the child with a speech, language or communication problem, collaboration was found to assist in supporting the child and their families, maximising the child's learning opportunities, and facilitating their access to the curriculum (Gascoigne, 2008; Tollerfield, 2003; Lindsay *et al.,* 2002). For the professionals involved in the collaborative process, Law and Elias (1996) suggest that the more information they have, the greater their ability to make informed decisions. There is also an argument that collaborative problem solving between SLTs and teachers generates more innovative solutions, as their different "working conditions, roles, skills and knowledge" can serve to complement one another thus adding to their professional development (Tollerfield, 2003). For the class and school, Lindsay and Dockrell (2002) argue that a SLT's consultation with a teacher could benefit several children not just one child. Others suggest it can enhance the image of the school or stimulate positive changes in management structures (Hartas, 2004). However, these benefits are not reaped without overcoming the potential barriers.

2.2.2 Barriers to collaboration

The barriers to collaboration are as diverse and numerous as its benefits. McCartney's (1999) comprehensive analysis of the systematic barriers to collaboration between SLTs and teachers provides a useful framework for discussion. She proposes that barriers to collaboration can be considered under the themes of functional barriers, structural barriers, process barriers and system-environment barriers.

Functional barriers include staff shortages, lack of understanding of speech, language or communication difficulties, different models of inter-professional interaction and trouble forming the necessary working relationships (McCartney, 1999). In mainstream schools, children with speech, language and communication difficulties are sometimes only a small proportion of the schools' population, resulting in occasional visits to the school by SLTs, making it harder to build up a good working relationships for collaboration. Levels of training for teachers in language development are described as being very low (Sadler, 2005). A number of authors maintain that the different cultures in which teachers and SLTs are trained contribute to differences in the way they think, work with and perceive communication difficulties (Rinaldi, 2000; Miller, 1999). Other studies of teachers have found they do not have a good understanding about the nature of what speech, language, or communication difficulties are and do not have the complete knowledge to help children with their difficulties (Paradice & Adewusi, 2002). Conversely, SLTs can find it challenging to "manage, understand, choose and transfer into practice, knowledge and skills that are outside their field" (Hartas, 2004), such as the classroom context and the education system. However, Roux (1996) cautions that the tendency for SLTs to be considered 'expert' in the communication domain may be hindering as collaboration presumes equality between professionals.

Structural barriers include timing and location of service delivery, managerial planning between health and education services and curriculum structures (McCartney, 1999). Of these, time constraints are the most recurring finding in studies investigating barriers to collaboration (Gascoigne, 2008; Sloper, 2004; Hartas, 2004; Mukherjee *et al*, 2002). Staff shortages of SLTs in Ireland (Bacon, 2001) can compound this difficulty of servicing many different schools with limited staff resources. Hartas (2004) alleges that these obstacles can be increased by rigid organisational structures. She asserts that

> "the limited infrastructure to support staff engaging in conducting, refining and translating advice and consultation

into practice, as well as the time, energy and commitment practising it, need to be considered" (p. 48).

Likewise, Gascoigne (2008) and Tollerfield (2003) propose that developments at a practitioner level will be supported from collaboration at operational and strategic managerial levels. Obstructions to this higher level collaboration can stem from lack of coterminous boundaries between health and education services (Law *et al.,* 2000) or from law, society and government expectations (Lindsay & Dockrell, 2002).

Process barriers include the ways in which SLTs and schools organise contact with children and their families (McCartney, 1999). In many schools the use of individual educational plans (IEPs) can facilitate joint working between SLTs and teachers. In spite of this, Hartas (2004) remarked that almost half of all teachers and SLTs in her study worried about having their decisions cross-examined and their 'territory' invaded during collaborative practice. This has led some authors to speculate that personality and attitude can be barriers (Tollerfield, 2003). One such attitude is the scepticism of any intervention that does not involve face-to-face contact with the child (O'Toole & Kirkpatrick, 2007). This overlaps with systems-environment barriers that consider the community and larger society, including parent organisations and support services (McCartney, 1999). Without adequate information and explanations, they may perceive collaboration as second rate and not as productive as direct intervention.

2.2.3   Overcoming barriers to collaboration

Despite the many barriers described above, several researchers depict how SLTs and teachers have overcome these and developed innovative approaches to work in partnership with one another (Lindsay & Dockrell, 2002; Roux, 1999; Martin & Miller, 1999; Popple & Wellington, 1996). There is a strong history of adaptation and change reported on a professional level, personal level, social level, and philosophical level (Hartas, 2004). For instance, modifying work practices and daily activities, developing flexible problem-solving skills, forming new channels of

communication, changing beliefs regarding inclusion and individual differences. This innovation and adaptability bodes well for the introduction of a novel ICT application. However, no studies were found that describe the use of information and communication technology (ICT) to help surmount the obstacles to collaboration between SLTs and educational professionals.

This study aims to investigate if the use of an ICT application, specifically a web portal, can help overcome the barriers outlined above, thus enhancing collaboration between SLTs and teachers. The next sections will discuss the use of ICT by SLTs and teachers, what a web portal for collaboration comprises of, and the potential benefits and barriers of its use to enhance collaboration.

2.3 Use of ICT by SLTs and teachers

More and more people use ICT on a daily basis to buy goods and services, book flights and hotels, bank, communicate with friends and family, and search for information. In 2007, 57% of all households in Ireland had access to the Internet (Central Statistics Office, 2007), and it is expected that this number will continue to grow. ICT plays an important role in the work of both SLTs and teachers, as will be discussed below.

2.3.1 Use of ICT by SLTs

Two ICT studies of Irish SLTs have been completed in the last six years (McMenamin, 2004; Moynihan, 2002). In a comprehensive questionnaire survey of SLTs in Ireland, McMenamin (2004) reported that 61% of SLTs had access to the internet at work, 83% had self-taught ICT skills, and 6% had completed a ECDL. McMenamin (2004) outlines that the majority of records are paper based, highlighting the limited IS support at present for record keeping. Moynihan (2002) indicated that SLTs in Ireland hold an overall positive attitude to the use of computers and they placed importance on security, confidentiality, ease of use and appropriate levels

of training. When probed, SLTs sought an ICT system that would provide accurate data relating to clinical activity, statistical information, links to client specific reports, access to research findings, and access to intervention applications. The researcher did not discuss with participants the idea of using ICT for collaborating with other professionals outside of SLT, but found that ICT could help SLTs collaborate with one another.

McMenamin (2004) cites a study by Freeman (2002) who investigated SLTs' attitudes and access to email and the internet in the UK. She found that SLTs engaged in research, continued professional development, and courses of higher education used ICT more than other SLTs. There was some indication that ICT competent managers tended to promote use of and access to ICT among staff, and a considerable number of SLTs who used the internet reported that they were self-taught or supported in their use or access to web-based resources by social contacts, such as family members or partners rather than work-based supporters. The issue of lack of professional training and support is a shared concern of many health professionals (Latchford, 2002; Alderman, 2000).

In Ireland, the National Health Strategy and the National Primary Care Strategy (Dept. of Health and Children, 2001b) and a Strategic ICT Framework for the Irish Health System (Hebe, 2004) recognise the need to develop ICT systems as a means for modernisation of the health services, and of it having the potential to revolutionise health care.

2.3.2   Use of ICT by teachers

It has been acknowledged that the use of ICT by teachers has also the potential to revolutionise the educational system (Albirini, 2006). Two recent Irish studies have focussed on the use of ICT by teachers and schools. DES (2008a) outlines that the student-computer ratio in Irish primary schools is 9.1:1, 30% of primary teachers rated their ability as 'intermediate' or 'advanced' with regard to using teaching and learning methods that are facilitated by ICT, 71% of primary schools surveyed have

a written ICT plan, and ICT is widely used to facilitate the provision of special education. In a further report, DES (2008b) indicate that teachers have demonstrated their willingness to incorporate ICT in their teaching, and the integration of ICT has taken place. Nevertheless, the process of promoting use of ICT by teachers has not been trouble free. As with SLTs, there has been a strong emphasis on individual factors negatively affecting its use, such as attitudes, computer experience, and gender differences (Tang & Ang, 2002). Recent studies maintain school factors are important to consider also. For example, time, available resources, support, ICT training, engaging teachers in the development of an ICT plan, and school culture (van Braak, 2004). Tearle (2003) and van Braak (2004) affirm that ICT integration should be examined from both the individuals' and organisations' assumptions, beliefs and values. In Ireland, the DES (2008a, 2008b) advocate for more appropriate ICT and broadband infrastructure, support of leadership for ICT integration in schools, a dedicated staff member to be responsible for ICT development, further ICT professional development, more integration of ICT into teaching and access to curriculum-relevant digital tools. The DES have set up their own web portal, Scoilnet, which aims to assist the integration of ICT in teaching and learning. The next section will discuss web portals in more detail, and outline potential benefits and barriers to using a web portal for collaboration.

2.4   Web portals and their use for collaboration

Cox (2006) reports difficulty in defining exactly what the term 'web portal' means due to its variety of forms. Nonetheless, he identifies five aspects that it can include: organising information sources, aggregating information services and web-based tools, customising of the portal as an environment, integrating data and creating hosting communities. Moody (2005, p.157) classifies a web portal as "a secure intranet system specifically designed and customised for the special needs of a designated group of people".

Web portals have been discussed and trialled between health providers and patients, and between educational professionals and students/parents. For example, Farrell *et al.* (2004) inform us of a design of a web portal for persons with serious mental illness, which aims to improve adherence to treatment and medication plans, and increase satisfaction of care in a community setting. Zickmund *et al.* (2007) describes a patient portal that allowed patients to view their electronic health record, receive laboratory test results, and communicate electronically with their health provider. Microsoft (2007) illustrate a case study where a web portal was used as a single point of access for students, parents, teachers and principals in a large public school district. These examples help to illustrate what the potential benefits and barriers to using web portals for collaboration are.

2.4.1   Benefits of using a web portal for collaboration

There are many recognised benefits of using a web portal. According to Sloper (2004), adequate IT systems help ensure the promotion of multi-agency working through having good systems of communication available. In an educational setting, Microsoft (2007) outline the benefits of a web portal being improved access to information, enhanced productivity and decision-making, improved collaboration and rapid time-to-benefit at reduced cost. However, their objectivity is in question as they were the company providing the software. Nevertheless, improved collaboration was reportedly facilitated by having information available online for parents, using digital workspaces to share files with other teachers, and having online meetings, discussion groups, messaging and alerts. In a health setting, Liederman and Morefield (2003) found high levels of satisfaction among patients using web messaging with physicians when responses were made in a timely manner, and when communicating about non-urgent matters.

A web portal has the potential to provide social support, companionship and a sense of belonging (Ryymin *et al.,* 2008). McMenamin's (2004) Irish study demonstrated that SLTs were seeking a range of ICT applications

that they felt would benefit the profession. These included many functions that a web portal could potentially provide - fora, profiles, news, web based knowledge centre, inventory of intellectual assets, resources, therapy techniques, equipment, literature and courses. Moreover, the introduction of a web portal would bring a remarkable information system for the SLT department itself, as such systems are seriously lacking in the SLT profession.

Introduction of a web portal may bring increased efficiency and savings in time and expenses (e.g. phone costs, travel expenses, photocopying expenses, using templates). Very few studies include formal economic analysis of ICT applications, such as web portals (Currell *et al.,* 2000). From those that do, some studies show that they can be cost effective (Wootton, 2001), while others conclude that there is no evidence of cost effectiveness (Whitten *et al.,* 2002). The cost effectiveness appears to depend on transportation costs, volume, time sensitivity of care, and the cost of the alternative (Bashshur *et al.,* 2000). However, it is important to remember the cost cannot be the only factor in providing intervention for a child who has a speech, language or communication impairment. As documented previously, collaboration has positive effects on clinical outcomes (Gascoigne, 2008; Tollerfield, 2003; Lindsay *et al.,* 2002). In the current climate of strict budget limits, it will be important to appraise the cost of a web portal (e.g. equipment, maintenance, technical support and training) with a social audit analysis, in which a "matrix of data on monetary items plus information on non-monetary benefits is produced" (Hailey, 2005, p.277). The benefits of a web portal will also have to be evaluated in light of the potential barriers to its adoption.

2.4.2 Barriers to using a web portal for collaboration

The potential barriers to using a web portal for collaboration include security risk, the need to protect data, upholding ethical principles, professional liability, resistance to change and personal factors, such as skills and attitudes. Each of these will be outlined below.

2.4.2.1 Security

Security is paramount and can be the greatest barrier to adoption of an ICT application. Ilioudis and Pangalos (2001) point out that the advantages of using the web come with a greater element of "risk of confidentiality, integrity and availability of information". The public report concerns that web tools could potentially lead to release of sensitive information, government control of personal data, use of data without consent, poor data integrity, and/or inadequate safeguards (Croll & Croll, 2007). Security of the client's private and personal health and educational information is an important issue from an ethical, legal and professional stance. Each citizen has a fundamental right to have their personal data protected under the European Convention for the Protection of Human Rights and Fundamental Freedoms. Introduction of a web portal that has access to client information has the potential to dramatically increase the possible risks to security of this data. Hence, standards and codes of conduct are essential features to consider to ensure high levels of quality, effective and consistent information collection, interoperability and accountability. Several reputable bodies are developing quality standards for health related websites (see Table 2 overleaf) and there have been many published standards that are relevant to the communicating and collaborating via a web portal (see Table 3 overleaf). Adherence to these standards must be complemented by physical security of the PCs, training of staff, security policies, proper configuration of the operating systems and applications and comprehensive auditing (Slowikowski & Zielinski, 2006). Parents of clients, SLTs and teachers must be fully informed of the risks to privacy involved with online communication, but reassured with the security measures that will be in place and the existence of regular audits.

The eRisk Working Group for Healthcare's Guidelines for Online Communication (2007) include advice on the adoption of the following security measures:

- Ensuring the use of a secure network with provisions for privacy and security, including encryption and firewalls. Use of Https

Table 2: Organisations that develop quality standards for health related websites.

Organisations that develop health related websites quality standards
The E-health Code of Ethics of the Internet Health Coalition
The American Medical Association
The European Standardization Committee and its Technical Committee (TC 251), including the CEN 13606 standards for communication
The European Accreditation and Certification of Telematics in Health (TEAC-Health)
The Health on the Net Foundation's Code of Conduct (HONcode)
The eEurope Draft Good Practice Guidelines for the Health Internet
The eRisk Working Group for Healthcare's Guidelines for Online Communication
The National Standards Authority of Ireland's (NSAI) Health Informatics Standards Committee

Table 3: Published standards relating to security (NSAI, 2008; Nawrocki & Radziszowski, 2006)

Published standards relating to security
I.S. CEN/TR 15253 Health Informatics- Quality of service requirements for health information interchange
I.S. CEN TR 15299 Health Informatics – Safety procedures for identification of patients and related objects
I.S. CEN 13606 standards for communication
I.S. CEN TR 15300 Health Informatics – Framework for formal modelling of healthcare security policies
ISO/IEC 17799:2005 provides practical guidelines for developing organisational security standards and effective security management practices
Algorithm for Digital Signature Services in Health Care, ENV-12388:1996
Security Categorisation and Protection for Healthcare Information Systems, ENV 12924:1997
Security for Healthcare Communication, ENV 13608:1999

(Hypertext Transfer Protocol over Secure Socket Layer) can help ensure a secure http connection by transferring encrypted information between computers over the web (Microsoft, 2008)

- Ensuring authentication of the identity of correspondents in online communication. Bellazzi *et al.* (2001) recommend use of security certificates, data structures that encapsulate general information about the client, and public key algorithms.

- Ensuring there is no unauthorised physical access to the computer by using automatic log-out and password protection

- Ensuring informed consent is obtained from the client in relation to the limitations of this form of communication (e.g. expected response times, avoided for emergency)

In addition, the web portal can seek accreditation from an independent body such as URAC, which would administer a rigorous evaluation of the web portal's ability to meet 50 quality standards, such as security, disclosure, content, staff adherence (URAC, 2008), helping to increase the clients' and managers' confidence, and thus decreasing the feeling that security risk is a potential barrier to adoption.

2.4.2.2 Conflicts among ethical principles

Related to security barriers, are the possibility of conflicts among the ethical principles of beneficence, autonomy, fidelity and justice (Layman, 2003). The World Medical Association (2007) identifies three main ethical principles that should be considered when providing care over a distance, which may also be potential barriers to the use of a web portal for collaboration if not addressed (see Table 4). In order to help devise informed policies, that are cognisant of ethical dilemmas, reference can be made to the E-Commerce Directive (Directive 2000/31/EC), the Privacy Directive (Directive 2002/58/EC), data protection legislation, the e-Europe initiative, and the work of the European Health Telematics Association (McCubbin, 2006). Further measures to help prevent any potential breaches of ethical principles include consideration of the legal framework.

Table 4: Potential ethical barriers when providing care over a distance. Adapted from World Medical Association (2007).

Ethical Principle	Details
Patient-physician relationship and confidentiality	Users must be able to identify each other reliably, and ensure confidentiality is maintained via security measures
Responsibilities of the clinician	To ensure professionals can use the system, understand the treatment, acknowledge any limitations and recommend face to face contact if required
Quality of care	Clinicians must ensure best practice

2.4.2.3 Liability/responsibility issues

SLTs and teachers need to be fully aware of the potential legal liabilities that may arise as a result of using a web portal to collaborate with teachers, as failure to do so would be a probable barrier to its longevity. Permanent written records created by the SLT or teacher can be open to interpretation of the exact meaning, messages can be misdirected or intercepted by third parties, and a time lag between when the user posts a message and when it is read, could have serious legal implications if they put the client at risk (Alemi *et al.,* 2007). Laws exist to help regulate the collection, use, and protection of personal health information, such as the Data Protection Acts 1988 & 2003, and the Statutory Instrument Number 535 of 2003 European Communities (Data Protection Commissioner of Ireland, 2008). These acts insist that a person must be aware of the identity of the people who will be processing the data, the purposes for which the data will be processed, any third party to whom the data may be disclosed, and the existence of a right of access and a right of rectification. This has particular relevance for teachers accessing data in a school setting, and adherence to the act by

providing a privacy statement, that includes aspects detailed in Table 5, should help secure confidence (Data Protection Commissioner, 2008).

Table 5: Aspects of a privacy statement. Adapted from the Data Protection Working Party (2007)

Aspects of a Privacy Statement
Respecting self-determination (i.e. when and how the personal data should be used)
Proper identification and authentication of patients and health care professionals
Safeguarding against unauthorised access to the data in order to read and write in the record
Prohibiting use of the data for other purposes
Considering how the data will be stored (e.g. decentralised/centralised)
Data security (e.g. by using privacy enhancing technologies, auditing those accessing the record, effective back up and recovery, training of health professionals)

One aspect of the web portal will be useful links to resources that can be used to supplement intervention with a particular child. However, if the legal implication of such links were not taken into consideration it would be a potential barrier. For legal purposes, a disclaimer page between a link to a third party website can be posted to reject responsibility for their content or their privacy (eRisk Working Group, 2007). Efforts can be made to ensure these third party websites are of high quality and authorised by professionals, and that users are educated on rating systems that exist to help determine the value of a website (e.g. www.medmatrix.org). Furthermore, all web pages should comply with the provisions of the Copyright and Related Rights Act 2000 (Office of the Attorney General, 2008), and should not unlawfully reproduce any work in which copyright subsists and for which no licensing arrangements have been put in place.

2.4.2.4 Resistance to disruption/change

In addition to possible security, ethical and legal barriers, a further potential obstacle lies in the argument that ICT can bring changes to some roles, responsibilities and methods of communication between professionals, all of which may be a source of resistance to its adoption (Gagnon *et al.*, 2008; Olson & Olson, 2000). A situation can develop where the ICT application could fit one context (e.g. health) but not the other (e.g. education), or the new practice may work poorly compared with existing practices which have had time to adapt to local needs (Wagner & Newell, 2004). A view can exist for some professionals that online messaging can result in important aspects of communication being lost, such as voice, gestures, facial expressions (Alemi *et al.,* 2007) and it would be necessary to augment the web portal by telephone calls and school visits when necessary. Resistances may also be caused by disruptions to hierarchies, inter-professional identities, or clinician patient interactions (MacFarlane *et al.,* 2006), or simply disinterest (Zickmund *et al.*, 2007). Disinterest can emerge if professionals are satisfied with the current services, for example, acceptable relationships, communication and responsiveness of provider, and if they fear losing relationships and having to learn new systems (Zickmund *et al.* 2007). Hence, teachers or SLTs may not be motivated to 'fix something that isn't broken'. However, if the system is designed in a user-friendly way, SLTs and teachers are likely to see the benefits in terms of educational opportunities, ability to work more flexibility, professional development, easier communication with each other, and advantages to the clients and their families.

2.4.2.5 Personal factors

Personal factors, such as an individual's skill and attitudes, could provide a barrier to the implementation of a web portal for collaboration. Some inquiries have confirmed that a gender gap exists in computer use and attitudes (DeYoung & Spencer, 2004; Jensen, DeCastell & Bryson, 2003; Looker & Thiessen, 2003). As SLT and teaching are predominantly female professions, this could have a negative impact on the acceptance of a web

portal. Moreover, Dockrell and Lindsay (2001) found evidence that teachers may not consider they benefit from the consultation that could be provided by SLTs, even if it is more readily available via a web portal. This attitude may stem from the notion of the consultation being construed as an "expert model", which is not considered conducive to collaboration (McCartney, 1999). However, it is intended that the web portal will allow for two way input and output, where teachers can inform SLTs of relevant information to assist in the therapeutic intervention of the child's speech, language or communication difficulty.

2.4.3 Summary and conclusion of literature review

This chapter has discussed from previous findings what the definition of collaboration is, the benefits and barriers to collaboration, the use of ICT by teachers and SLTs, and more specifically web portals and the potential advantages and disadvantages of their use to enhance collaboration.

The author aims to augment the existing knowledge by exploring the research question: "can a web portal enhance collaboration between SLTs and teachers?" The next chapter will describe the methodology employed by the researcher to examine this question.

3 Methodology

This study seeks to explore the personal opinions of two groups of people (SLTs and educational professionals) to help examine if employment of a web portal can enhance collaboration between them, including: what influences collaboration; what are the advantages and disadvantages of collaboration; what elements do SLTs and teachers consider necessary to be included in the design of a web portal to enhance collaboration; and what are the potential advantages, disadvantages and barriers to the use of a web portal for collaboration. Qualitative research methods were considered an appropriate methodology to obtain rich data about the beliefs, perceptions and experiences of these concepts.

This chapter will describe the rationale for adopting a qualitative research method and the process followed by the researcher from sampling to data collection to data analysis. The quality and rigour of this study will also be discussed.

3.1 Qualitative research methods

A comparison of some of the main features of quantitative and qualitative methods, as described by Polit and Beck (2006), are provided in Table 6 overleaf. The familiar distinctions made between qualitative and quantitative research methods can be over-simplistic and unrepresentative (Rolfe, 2006). Nonetheless, for the purpose of this study, the commonly referenced difference in data collection is relevant. Quantitative research methods typically yield numeric data. However, collaboration, professionals' constructs about it, and their opinion of how a web portal could enhance it, does not fit well with that numeric approach. Conversely, a qualitative research method was deemed more suitable. Qualitative research is defined by Parahoo (2006, p.63) as:

> an umbrella term for a number of diverse approaches which seek to understand, by means of exploration, human experience, perceptions, motivations, intentions and

behaviour…based on the belief that interpretation is central to the exploration and understanding of social phenomena.

Hence, it was believed that employing a qualitative research method was more likely to facilitate the attainment of a deeper insight into the social phenomena of collaboration and investigate how technology, specifically a web portal, could have the potential to affect it.

Table 6: The differences between quantitative and qualitative research methods (based on Polit & Beck, 2006)

	Quantitative methods	**Qualitative methods**
Population	Delimit the study population through the eligibility criteria	Sample from the accessible population
Sample size	The larger the sample, the more representative it is likely to be	No established rules. Sample size is largely a function of the purpose of the inquiry, the quality of the informants
Sampling designs	Non-random sampling may be used. Most commonly, probability sampling using random selection from the population. • Simple random sampling • Stratified random sampling • Cluster sampling • Systematic sampling • Quota sampling	Non-random sampling to help select people who will make good informants. • Convenience sampling • Snowball sampling • Purposive sampling
Data	Numeric information	Narrative descriptions
Relationships sought	Seek relationships between independent variables and dependent variables. Typically expressed in quantitative terms (e.g. more than, less than)	Seek patterns of association (themes/processes) as a way of illuminating the underlying meaning and dimensionality of phenomena of interest

3.1.1 Previous uses of qualitative research methods

Previously, other studies have employed qualitative research methods to investigate collaboration between SLTs and educational professionals with good success. Hartas (2004) carried out group discussions with teachers and SLTs; Law *et al.* (2002) performed group interviews with SLTs, teachers and educational psychologists; Tollerfield (2003) facilitated brainstorming sessions with SLTs and teachers; Mroz (2006) interviewed teachers and McCartney *et al.* (2005) interviewed SLTs. Similarly, Murphy *et al.*'s (1998) comprehensive review of the literature of the use of qualitative methods in health technology assessment concluded that this method can provide valuable information on the implementation and evaluation of a new IT application. There have been many documented studies of IT applications that have found qualitative research methods effective (Tondeur *et al.,* 2008; Zickmund *et al.,* 2007; Farrell *et al.,* 2004; Dawes, 1999) and calls for using qualitative research methods more often for the evaluation of health informatic systems (Chiasson *et al.* 2007; Kaplan & Maxwell, 2005; Gustafson & Wyatt, 2004, Kaplan, 2001).

3.2 Researcher

Researcher reflexivity acknowledges and examines how the researcher's past experiences, biases, and values can impact the study (Finlay, 2002; Ingleton & Seymour, 2001). The researcher is a SLT working in a community paediatric setting, who has a lot of experience collaborating with primary school teachers about children with speech, language or communication difficulties.

3.3 Sample size and sampling design

Qualitative studies generally use a smaller sample size, and the sample is taken from the accessible population in a purposeful way, with the belief that these participants who will be good informants and provide rich data. For this study, the sample commenced with convenience sampling by utilising speech and language therapists and educational professionals

known to the researcher, where it was established that they had experience of collaborating and thus could provide meaningful data. Including two data sources (teachers and SLTs) in the sample is considered data source triangulation, and helps increase credibility (Polit & Beck, 2006). This familiarity with the informants could have meant that they felt more comfortable sharing their opinions. On the other hand, "critical distance" (Meyrick, 2006) could not be guaranteed. In order to help overcome this, the sample was enhanced by snowball sampling, where early informants were asked for suggestions for other suitable study participants who were unknown to the author and hence could possibly have been less affected by this "critical distance" factor. Furthermore, as the author is a SLT, educational professionals may have been reluctant to openly criticise the collaborative practices of SLT services, which may have negatively affected the honesty of their answers. To help minimise this, confidentiality was guaranteed at the start of each interview. It was felt that questions about a web portal were less subject to this lack of distance as it was a novel concept and informants were not commenting on an existing service that they had pre-conceived ideas about.

Later in the study, purposive sampling developed, where sample members were chosen purposefully based on the information needs of the study. Three principals of schools were invited to participate to obtain an educational managerial perspective. A SLT who works in a specific service for children with learning disability and a SLT who works with children and adolescents with mental health difficulties were also asked to participate to obtain different perspectives than that of community SLT services.

A total of twenty-four adults participated in the study (twelve SLTs and twelve educational professionals). A breakdown of the sample numbers is outlined in table 7 below.

Table 7: Breakdown of the sample numbers

	SLTs	Learning support / resource teachers	School principals
No. in sample	12	7	5

This sample size led to data saturation and was felt to be large enough to make meaningful comparisons (Mason, 2002). All of the SLTs work in paediatric settings and engage in regular collaboration with schools, thus they had knowledge and experience of the research topic. Seven of the educational professionals were learning support/resource teachers and five were school principals. All of these educational professionals work in mainstream primary schools. Learning support/resource teachers were intentionally a large part of the educational sample because in current collaborative practices these are the educational professionals who have most contact with SLTs because of their remit for working with children with allocated support hours specifically because of their speech, language or communication difficulty. Four of these teachers' main experience of collaborating with SLTs was through a SLT who communicated with them regularly about a cohort of children with mild general learning disability who were being educated in their mainstream schools. The above two factors helped ensure a representative sample as these teachers had been exposed to collaborating with SLTs, but to varying degrees.

3.4 Data collection

Focus groups were considered initially based on their ability to be more efficient, but due to difficulties in finding suitable time and location for a disperse population and the fact that people may not be comfortable discussing a potentially sensitive issue in a group setting, individual interviews were deemed more suitable. It was anticipated that individual semi-structured interviews would allow informants to talk more freely on relevant topics then they would with quantitative instruments or in groups, generating a fairer and fuller representation of their perspectives (Mason, 2002). The same number and types of questions were asked of each informant, but the flexibility of semi-structured interviews allowed for re-wording for different professionals, further probing, and clarification (Parahoo, 2006). Barbour and Fetherstone (2000, p.80) demonstrate that semi-structured interviews "provide the means to move beyond a statement of opinion to an explanation of that opinion", thus obtaining richer data

for analysis. They also enabled the participants to raise other issues that they felt were relevant to the areas explored.

A list of questions for the semi-structured interviews was compiled based on findings from the literature, ensuring that the two main topics were covered, that is, collaboration in a general sense, and could a web portal enhance collaboration. See table 8 overleaf for the list of questions and appendix 1 for the rationale for these questions based on what the literature outlines. It was deemed appropriate to investigate the informants' opinions of collaboration as it currently stands, before introducing the topic of a web portal to enhance it. This was in an effort to extract as much data as possible on current practices of collaboration, advantages, disadvantages, barriers and opinions on needs to change current practices. It was anticipated that this data would feed into the web portal design. Furthermore, data about collaboration in a general sense was deemed appropriate to obtain before mentioning a web portal, in case this IT concept awakened participants' possible pre-conceived notions about IT applications and influenced their responses about current collaborative practices and how it could be improved. Appendix 1 contains the research relating to why the questions were included. These findings from the literature also acted as prompts for reluctant interviewees when needed. The interview was piloted on a SLT and hence the final question was added, which invited the informant to add any further comments that they had. No other changes were deemed necessary.

Each semi-structured interview was administered face-to-face by the author and was audio-recorded. Interviews with the SLTs and two teachers took place in the researcher's place of work. Interviews with the remaining ten educational professionals took place in their respective schools. Length of interviews ranged from twenty minutes to sixty-five minutes, with an average of thirty minutes per interview. Each individual interview was transcribed verbatim by the author, lending to her greater familiarity with the data and an early identification of the important issues being raised.

Table 8: List of questions used for the semi-structured interviews

Questions
Part A: Collaboration in a general sense and the current situation between SLTs and Teachers in Ireland
1. In your current job, is collaboration with teachers/SLTs necessary? Why? Why not?
2. How would you define/describe collaboration?
3. At present, how do you collaborate with teachers/SLTs?
4. At present, what kind of things do you collaborate about?
5. In an ideal world, what other kind of things would you like to share/communicate about/collaborate on?
6. What affects the quality/effectiveness of collaboration?   a) what facilitates collaboration?   b) what hinders collaboration?
7. When is collaboration not required?
8. What are the advantages of collaborating with SLTs/teachers?
9. What are the disadvantages to collaboration?
Part B: Would a web portal enhance collaboration between SLTs and teachers?
10. Do you currently have access to a computer in work? For what purposes?
11. What are the barriers to using a computer?
12. Have you ever seen/used a web portal? A web portal is "a secure intranet system specifically designed and customised for the special needs of a designated group of people". For example: Yahoo!/IASLT website/Scoilnet/HSE intranet/ Dept of Education portal etc.
13 If there was a specific secure web portal available for SLTs and teachers that you could log on securely to see details of clients, when they were referred, when their appointments were, what the outcome of assessments were, links to resources, and a way of messaging and teachers sharing classroom perspectives - do you think it would be an effective way of collaborating? Why?
14. What else do you think a web portal between SLTs and teachers should include?
15. What do you think the advantages would be?
16. Is there anything that could be a barrier to its use?
17. What would be the disadvantages of its use be?
18. Would other methods of communication still be necessary?
19. What additional support would be needed?
20. Any other comments to make?

3.5 Data analysis

The data analysis phase of the research endeavoured to ensure credible findings were extracted. Use of computer software packages, such as QSR NUD*IST (Richards & Richards, 1994) and ATLAS.ti (Muhr, 1997), to aid with data analysis were contemplated. However, it has been argued that they do not reduce the time required for analysis and they would not enable the formulation of hypotheses or schema linking the themes to theory (Pope, Ziebland & Mays, 2000). In contrast to quantitative methods (see Table 6 above), this qualitative study aimed to seek patterns of association, concepts, categories and hypotheses through immersion in the narrative data (Hayhow & Stewart, 2006). This was accomplished through thematic analysis, as described by Attride-Stirling (2001).

3.5.1 Thematic Analysis

Thematic analysis aims to extract the salient themes, and uses thematic networks "to facilitate the structuring and depiction of these themes" (p.387).
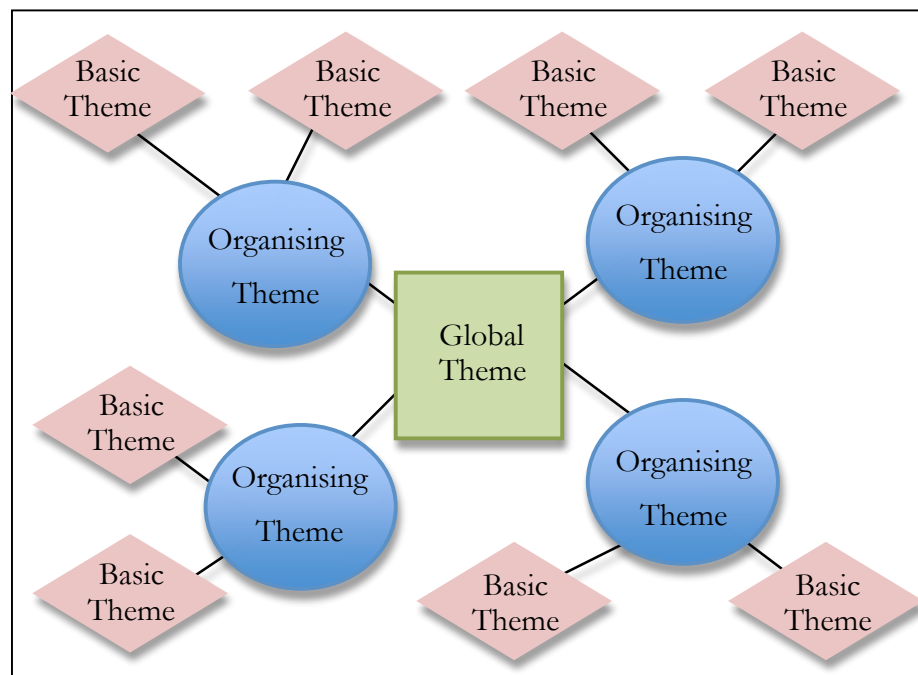
Figure 1: Structure of a thematic network (based on Attride-Stirling, 2001)

As figure 1 illustrates, thematic networks organize the wheedling out of: firstly basic themes; secondly more abstract organizing themes; and thirdly super-ordinate global themes, each of which reflects a major issue in the transcripts. The themes at each of the three levels and the relationships between them are then represented as web-like maps, which characterize the interconnectivity between them and serve as a tool for interpretation of the data (Attride-Stirling, 2001).

Attride-Stirling (2001) describes a six-stage process of how to derive at the Global Themes, which was adhered to in this study, and will be described in the following sections.

3.5.1.1 Stage one: coding the material

Coding of the material was accomplished by putting all the data relevant to each of the individual questions from the semi-structured interviews together into meaningful chunks under each question heading (see appendix 2). The data was preserved in its verbatim format and divided into data extracted from SLTs and teaching professionals to help ascertain if there were differences between the two groups. The transcripts were scrutinised and all data relating to a particular question heading code were included. If data was relevant to more than one question heading code, it was classified again under an additional question heading code. The only data omitted were comments that were irrelevant to the study. This process enabled the researcher to collate similar data, highlighting the "scope and coverage of the data" (Mason, 2002), in a manner that was easily accessible for further analysis.

3.5.1.2 Stage two: identifying themes

The transcripts and coded quotes were read numerous times to help identify and index themes, and all data relevant to each theme was pinpointed by comparing it with the rest of the data. Ideas that surfaced were constantly checked and re-checked, thus extracting an abundance of prominent and common themes. By immersing in the data itself, the

researcher was able to work deductively and reduce the influence of previously held assumptions. Particular scrutiny of the contrasting or unexpected data was completed "in order to illuminate the phenomenon under study" (Barbour, 2000, p.85). This process continued until saturation was achieved, that is, until the themes in the narrative descriptions repeated and no new themes could be acquired (Polit & Beck, 2006). The numbers of participants who mentioned certain themes was provided to help draw attention to popular themes. A summary of the themes that emerged from the two participant groups, under each question heading code, can be read in appendix 2.

3.5.1.3 Stage three: constructing the networks

The themes extracted in stage two were compiled into similar groupings and labelled as the Basic Themes. These Basic Themes were grouped into more abstract Organising Themes based on "conceptual correspondence". Then, the Organising Themes were grouped into the super-ordinate Global Themes, each of which reflects a major issue from the transcripts, and contributes to the investigation. Each Global Theme produced a thematic network and was then illustrated as a web-like representation recommended by Attride-Stirling (2001). See figures 2-5 in the results chapter. These networks were then re-checked with the data.

3.5.1.4 Stage four: describing and exploring the thematic networks

When the construction of the networks was completed, the analysis continued by making inferences of what the themes meant. The transcripts were re-read through the structure of the Global Themes, Organising Themes and Basic Themes, and quotes from the transcripts supportive of the analysis were documented.

3.5.1.5 Stage five and stage six: summarising the thematic network and interpreting the patterns

In stage five a summary of each network, including the themes and its characteristics, was completed. Stage six involved looking at how the significant themes addressed the study's research question, the implications for practice, the extension of the knowledge base and suggestions for future research priorities. This summary is detailed in the results chapter and the interpretation is outlined in the discussion chapters.

Adhering to the above six-stage process of thematic analysis was one means of ensuring quality and rigour in this research study. Other aspects of quality and rigour will be discussed in the next section.

3.6 Quality and rigour of this research study

There was been widespread debate on how quality and rigour can be measured in qualitative studies (Ziebland & McPherson, 2006; Meyrick, 2006; Dixon-Woods *et al.,* 2004; Tobin & Begley, 2004; Pyett, 2003; Ingleton & Seymour, 2001; Whittemore *et al.,* 2001; Mays & Pope, 2000). Rolfe (2006) summarises the current debate into three main positions and the rationale for each position. See table 9 below.

Table 9: The three main positions on how quality and rigour should be measured in qualitative studies (based on Rolfe, 2006).

	How qualitative research should be judged	Rationale
Position 1	Qualitative research should be judged by the same criteria used in quantitative research	Aspire to scientific terminology, evidence and values
Position 2	A different set of criteria should be used for judging qualitative research than is used with quantitative studies	The issues at stake are different and hence require different terminology, evidence and values
Position 3	It is not appropriate to be using pre-determined criteria to judge qualitative research	Each study is unique and should be appraised individually

Some academics argue for the first position, that quality can only be achieved in a qualitative study by pursuing the same rigorous validation and reliability strategies that would be employed in a quantitative study (Morse *et al.,* 2002). They claim that without the assurance of "hard numbers and p values" (p.2), there can be little confidence in the reliability and validity of a qualitative study.

Conversely, there is considerably more support for the second position, that is, a different set of criteria should be used for judging qualitative research than is used with quantitative studies. According to Mays & Pope (2000) and Tobin & Begley (2004), quality should be measured in a different way than would be used in quantitative studies to embrace the distinctive aims of a qualitative study. Similarly, Meyrick (2006) argues that it is inappropriate to apply the same quality standards for qualitative studies that would be applied to quantitative studies, because of the mismatch in philosophy. Pioneers of this attitude, Lincoln and Guba (1985), proposed that the criteria of credibility, transferability, dependability, and confirmability replace the corresponding criteria used in quantitative studies: internal validity; reliability; external validity and presentation. Twenty-two years later, these criteria are still being recommended as the gold standard by many (Ryan *et al.,* 2007), but not all.

Others, such as Sandelowski (1993), Schwandt (1996) and Rolfe (2006), support the third position, that is, it is not appropriate to be using pre-determined criteria to judge qualitative research because of the individual and creative aspects of qualitative research. As Dixon-Woods *et al.* (2004, p.224) recognise, "some of the most important qualities of qualitative research can be the hardest to measure". Hence, these scholars advocate for a more holistic evaluation to encompass the art and creativity of qualitative analysis without compromising the rigour of a study.

As a result of the above arguments, the researcher was mindful of Whittemore *et al.*'s (2001, p.534) guidance that "attention to both process and product, art and science, contribute to validity and subsequently quality

in qualitative research". As part of the objective for quality, the researcher was conscious that a structure for appraising this study was required. Meyrick's (2006) pluralistic model for a quality framework for qualitative research was deemed appropriate as one component of the evaluation of this study, because it is founded on a comprehensive literature review and consultation with a panel of key experts in the field. Meyrick's model is based on the two main principles of transparency and systematicity. She proposes that the quality of a study should be considered under the elements of: researcher epistemological and theoretical stance; process (methods, sampling, data collection); analysis and results and conclusions. The researcher was cognisant of this quality framework during the research process, as will be discussed below.

3.6.1   Researcher epistemological and theoretical stance

The researcher has stated clearly her proximity to the data by acknowledging that there is less distance between her and the SLT informants than there is between her and the educational informants. In addition, the existing working relationships between the researcher and some of the participants were specified at the beginning of this study. It was recognised that these personal and professional biases could have the potential to prejudice analysis of the data, and hence efforts were made to define this proximity and introduce means of maintaining objectivity (e.g. including participants who were unknown to the researcher). In order to increase validity and quality, the researcher completed a process of self-examination through reflexivity, that is, acknowledging and examining how her past experiences, biases, and values could have impacted on the study (Finlay, 2002; Ingleton & Seymour, 2001). The researcher acknowledges that she has SLT professional training and working experience, and that some of the participants were personally known her. As a result, the researcher included participants who were unknown to her. Furthermore the author adopted a process of data analysis that was systematic and derived conclusions directly from the data via a transparent process, thus counterbalancing any possible pre-existing biases or values.

3.6.2 Process (methods, sampling and data collection)

Important quality markers are having clear aims and objectives and selecting appropriate methods to the research question (Meyrick, 2006). The aims and objectives of this study were stated clearly in the research question, and the rationale for using semi-structured qualitative interviews has been provided (above). Moreover, an explanation has been given earlier as to why questions about collaboration in general were asked before introducing the topic of a web portal, in the semi-structured interviews. It may have been advantageous if the informants could have seen a proto-type of a web portal to augment their understanding of what it was, what it could look like, and what the features would include. This may have led to a more comprehensive analysis of its potential by the participants. However, as the researcher was the person conducting the interview, she was able to clarify and explain and give examples as necessary, to insure the informants had a good understanding of the concept.

The sampling method has been outlined in detail, including make-up of the informants and an indicator of how representative the sample is. Two different interest groups were used (i.e. teachers and SLTs) thus ensuring a more comprehensive and balanced data set. The diversity of experience of the twenty-four informants was important in protecting against possible interviewer bias (Warr & Pyett, 1999).

The method and context of data collection has been described. As the interviews were semi-structured, this allowed for clarification of answers, probing of answers given to increase understanding and thus increasing validation of responses and reducing errors in analysis.

3.6.3 Analysis

The researcher has provided a transparent description of the systematic process adopted to extract themes, following Attrid-Striling's (2001) six-stage process of thematic analysis. The thematic networks presented in figures 2-5 illustrate how Basic Themes were grouped into Organising

Themes, and how Organising Themes were grouped into Global Themes. A thorough immersion in the data collected enabled the researcher to identify elements in the data that seemed to contradict the emerging themes. Furthermore, as the researcher was the person collecting the data, it was possible to identify cases that were the opposite of emerging themes. For example, only one participant responded that a web portal would not be an effective way of collaborating. The researcher was able to probe this opinion more deeply, which subsequently facilitated improved analysis of the emerging theme. Use of triangulation by using two different interest groups, and highlighting unexpected and contradicting cases supported conclusions reached.

Multiple and independent coding to confirm analysis of the data may have enhanced validity, but unfortunately was beyond the scope of this study. The author feels sufficient diligence and integrity has been demonstrated, to allow the reader trust in the validity and quality of the findings (Pyett, 2003).

3.6.4 Results and conclusions

The results and conclusions of this study have a transparent audit trail and can be clearly traced to the original data of the semi-structured interviews. Member checking to ensure correspondence between the researcher's account and the research participants was not completed. Some argue that this may have added further to validity (Lincoln & Guba, 1985). However, many claim that this has limitations as the account given to subjects to check will be coming from a wide sample and hence will always have differences to one individual informant's opinion and might only lead to an artificial consensus (Rolfe, 2006; Mays & Pope; 2000). Similarly, Meyrick (2006 p.806) cautions that member checking "places the participant's view of themselves at the heart of the research, rather than the researcher's interpretation of the data" and may have counteracted the analysis of the data completed (Morse *et al.,* 2002). The sample's representativeness and

the process of data saturation allow a reasonable assumption that the conclusions could be representative of the two interest groups in question.

3.7 Conclusion of methodology chapter

This chapter has described the research methods employed, including all the efforts made by the researcher to ensure rigour and quality in the research method, from sampling to data collection to data analysis. Hence, the reader's confidence in the results of this study can be increased. The results will be presented in the next chapter.

4 Results

This chapter will present the results of the thematic analysis of the data collected form the semi-structured interviews. It will describe each thematic network extracted following adherence to Attride-Stirling's (2001) six-stage process. Supportive quotes from the interview transcripts are also provided.

4.1 Overview of Global Themes and Thematic Networks

The following four Global Themes emerged from the data:

- Desired specifications of the web portal
- Potential incentives to use the web portal
- Potential disincentives to use the web portal
- Supports that could facilitate optimal use of the web portal

Each Global Theme that transpired consisted of Organising Themes, which in turn were made up of numerous Basic Themes. These themes are represented by thematic networks and illustrated in figures 2-5 overleaf. They will be described in turn in the next sections.
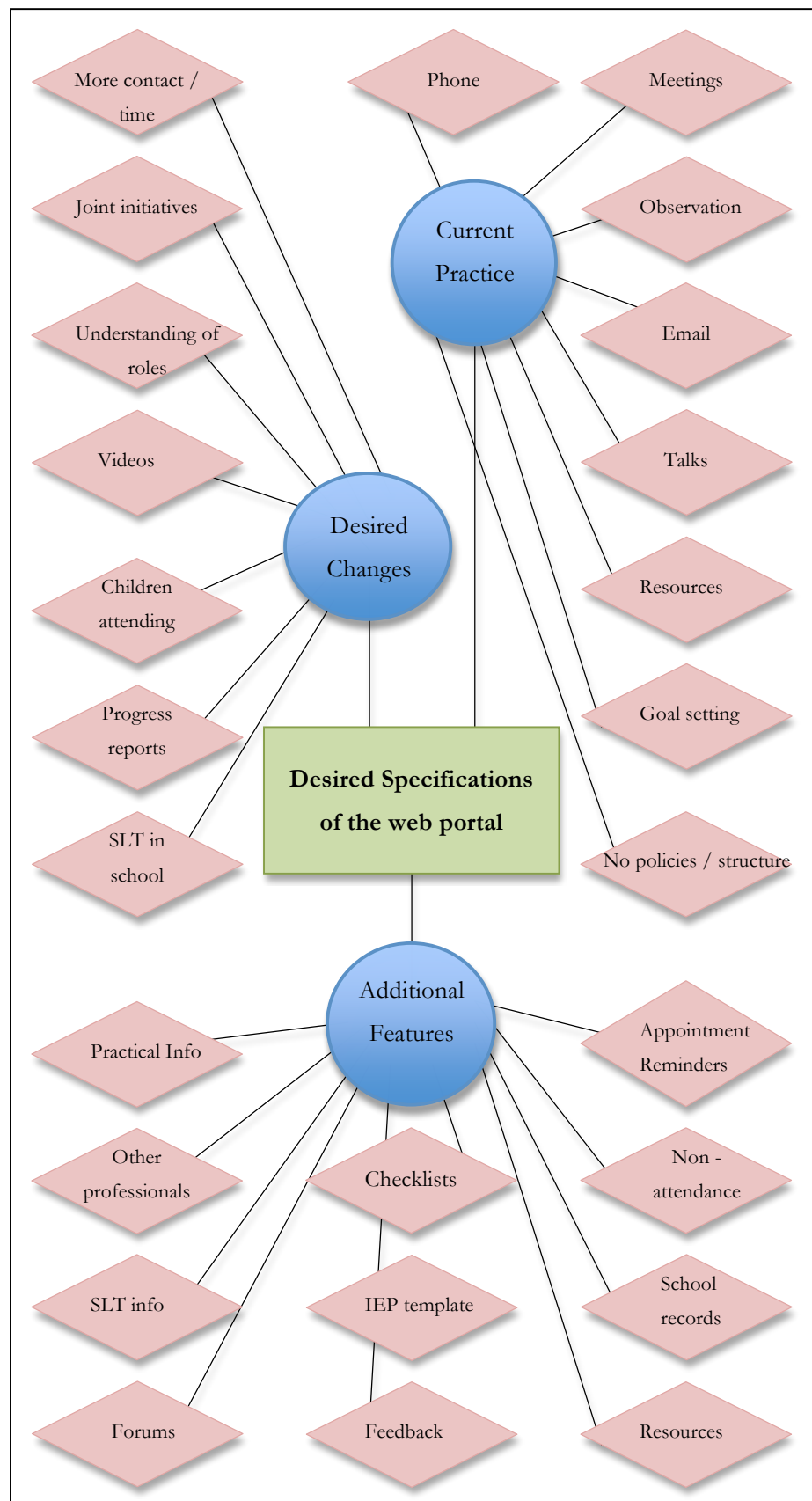
Figure 2. Thematic Network 1: Desired specification of the web portal
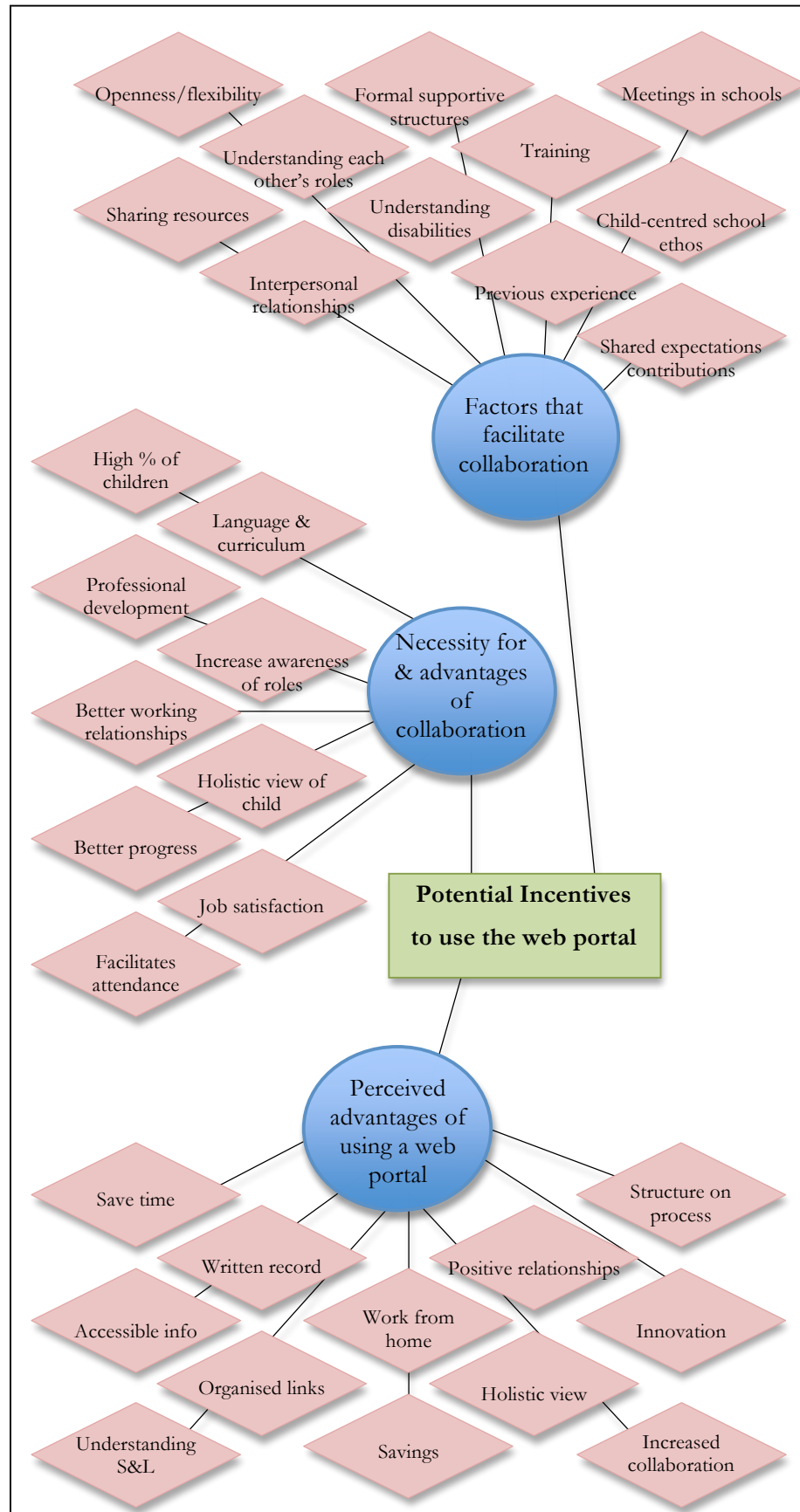
Figure 3. Thematic Network 2: Potential incentives to use the web portal
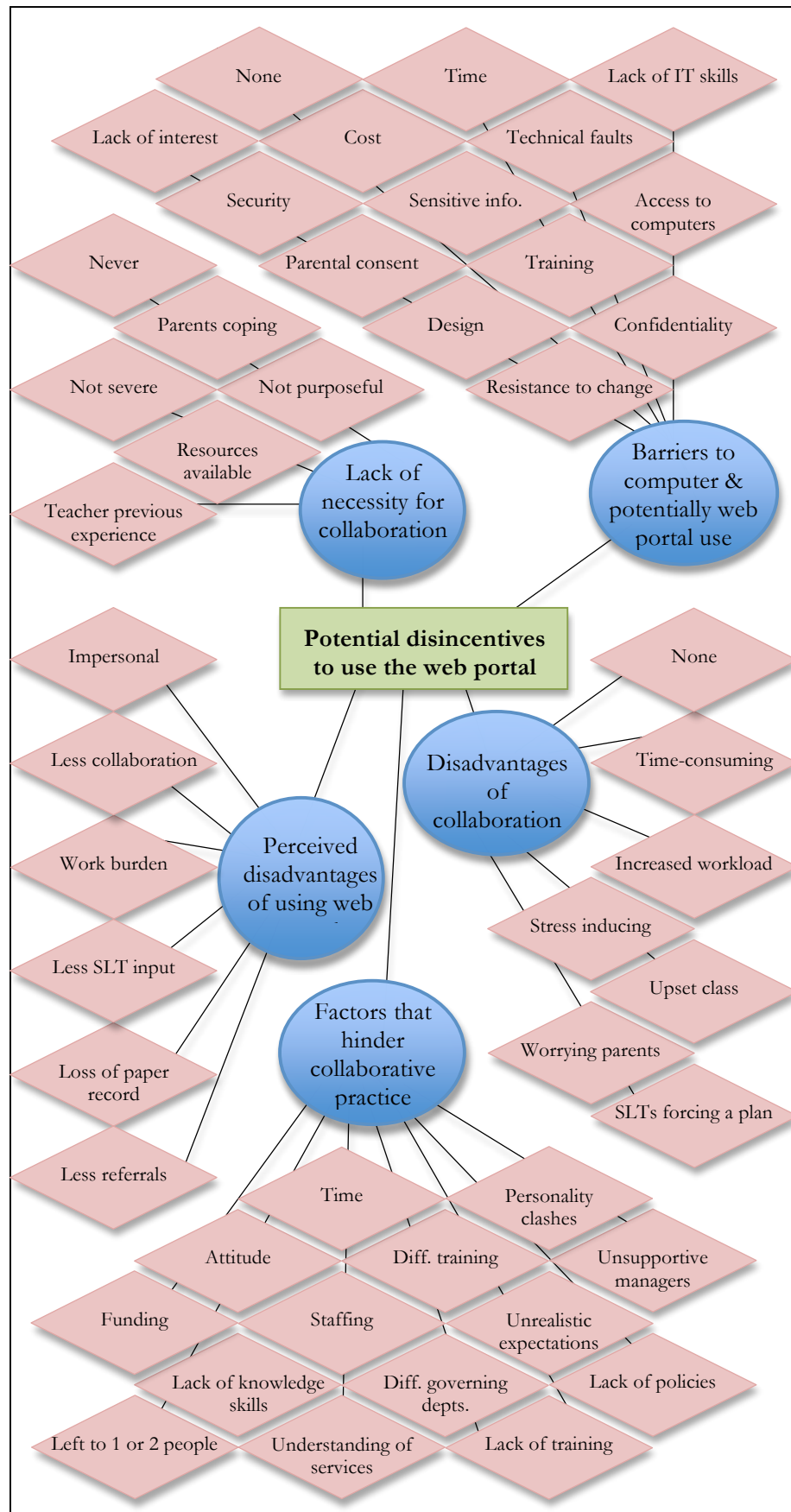
Figure 4. Thematic Network 3: Potential disincentives to use a web portal for collaborating
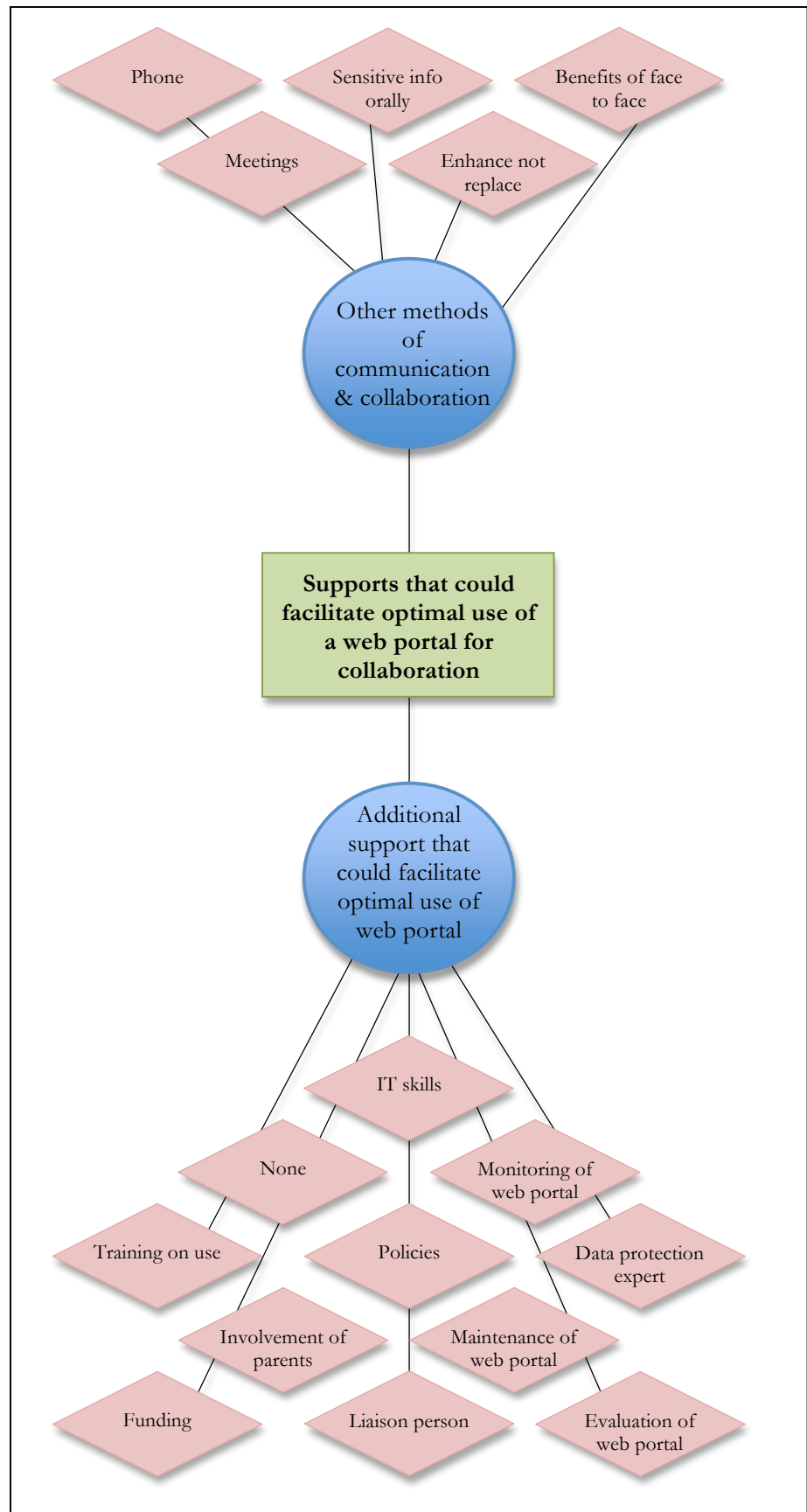
Figure 5. Thematic Network 4: Supports that could facilitate optimal use of a web portal for collaboration

4.2 Thematic network 1: Desired specifications of the web portal

The Global Theme for this network is the desired specifications of the web portal. It is constructed from three Organising Themes and twenty-six Basic Themes (figure 2). The Organising Themes comprise of what the current practices for collaboration are, how participants would like to see these practices changed and hence how a web portal may facilitate this, and what other additional features informants felt the web portal would preferably have. They will be described below.

4.2.1 Current practices of collaboration between SLTs and teachers

According to the participants, the current practice of collaboration between SLTs and teachers was depicted to occur through phone calls, emails, visits by the SLT to the school, a teacher observing a SLT session with a child, scheduled face to face meetings, SLTs providing information talks to school staff, SLTs posting information and resources and the class/learning support teacher completing these with the child, or working through established school processes, such as incorporating SLT goals into a child's Individual Education Plan (IEP), close links with the learning support/special education team or collaborating through the school's Home-School-Community Liaison teacher, as shown below:

> It can be anything from just a phone call to the teachers completing a form…to sort of collaborating on an actual intervention programme in the classroom…it can be lots of different things

> Mostly through phone calls and school visits and sending on information, and sending reports to the school and meeting them form time to time and sending them school programmes throughout a child's block or year of therapy

> I try to get involved in processes that the school already has in place like the IEP process, so rather than setting individual goals, I would try and look at what the goals are on the whole for a child and look at working with the school to achieve them

45

Also mentioned was: informing schools of a pupil's poor attendance to SLT appointments and collaborating on how to facilitate increased attendance:

> Getting children to access our services…we'll use the school and the teachers as a way of making contact with the child

> Quite important in facilitating attendance [at appointments]

It was felt that the type of collaboration varied depending on the situation or case (e.g. random phone call for a general query or a specific scheduled meeting to discuss an individual child's assessment outcome and goals for the future). One SLT stated:

> Depends on the case…some I have an arrangement where I meet with them in the school on a term basis…when we finish a report we often go down to the school…because they are often quite detailed and that can help make sure that the staff have a good understanding of the outcome of the assessment of the child. Some times we just liaise over the phone

There was no definite policy or system in place mentioned from either SLTs or teachers to follow to as to exactly how collaboration should be occurring, instead each individual appeared to have their own method and decided themselves what this would involve and how frequent this would occur. Responses indicated that this was mostly determined by the SLT involved, as the following quotes illustrate:

> There's no formal structure in place for the collaboration. A lot of it is based on basically human intelligence and goodwill and professionalism but it should be systematic. It shouldn't be based on a wing and a prayer. It should be organised and structured

> There is no set way of working together

> Setting up a programme in the infants…through meetings and phone calls. I think it was initially set up when the SLT contacted the school

It comes more from your [SLT] side maybe

4.2.2 Desired changes to current practices of collaboration that a web portal could facilitate

Teachers and SLTs had very similar views on the changes that they would like to see made to current collaborative practices. Respondents mentioned that in an ideal world they would like to have more regular contact and more time for collaboration:

If we had more time

I suppose it's finding the time to be able to do enough school visits

I'd like to have more time to…think about what we are going to do and how we are going to do it, but we don't always have time

Teachers and SLTs ideally would like to: work on joint initiatives with schools such as language and literacy development; and increase understanding of each other's backgrounds through talks or videos:

I suppose sometimes maybe teachers don't have a full understanding of maybe the role that we have…and I'm sure I don't fully understand what their roles are in the schools…maybe information sharing about the kinds of supports we can give each other

It would be very useful if a therapist knew what a typical class day is like, what it's like to have 25 to 31 children coming to you every day, jamming everything in to the curriculum and also having to have some sort of a sense and awareness and preparation or work for a child who you are supposed to keep remembering

If teachers were shown little videos of SLTs in small group work with children with different language issues and different learning needs, I think we could learn more about what each other does

> Video footage…to let them actually see us involved in the activities that we're actually describing

Teachers added that they would like to receive more information about which pupils are involved with SLT services and receive reports about how a child has progressed with SLT:

> Sometimes they [the children] arrive and we don't realise there is an issue until months…that we would be made aware that the child has some kind of speech delay and would need help

> A report maybe of how they did from the beginning and when they're finished and how they progressed

Four (of the twelve) educational professionals and five (of the twelve) SLTs stated that they would like to see SLTs based in school to ease the collaborative process, enhance teacher's understanding and knowledge of speech and language difficulties and enable children who have poor attendance at SLT appointments to receive therapy in school:

> If you had a magic wand, you would like more of the services to be school based…obviously the big plus would be that the children who are poor attenders, that you will get them in school

> I suppose ideally you would have a service from a SLT that might be based in particular schools and would build up good relationships with the teachers and they would know what to expect and they would know more about what the role of the SLT is

4.2.3   Additional features that the web portal should include

Both SLTs and teachers suggested that the web portal should include practical information about school/SLT opening hours, holidays, staff members, phone numbers and that there would be a facility to collaborate with wider educational staff and other relevant services (e.g. educational psychologists, community services), as illustrated:

> An interface between other cognitive professionals such as educational   psychologists,   occupational   therapists   and

teachers…so there's scope for…further multi-disciplinary aspect

Basic things like school timetables…what time are their breaks, what are their hours, when are their in-service days and when are the school holidays and who is the best person to contact for what…and similarly then for [SLT] clinics

Maybe information in relation to other services in the community, like parenting courses

SLTs also suggested incorporating basic information about SLT in general, the SLT service and SLT related diagnoses, discussion forums, online checklists for teachers to help identify if a child needs to be referred to SLT service, a template for IEP planning, and a capability to receive feedback from teachers:

Discussion forums, so for example if a teacher had a concern about a child and wondered whether to refer them or not

Advice sheets, guidelines for teachers…a recap of our service and what we do

On-line questionnaires for things…maybe a language screening…if they had concerns about a kid and wanted to try screening them before making a referral

Teachers recommended that the web portal contain lists of pupils who did not attend SLT appointments, reminders of appointments, sharing impressions of the child/family, relevant school records (e.g. attendance), access to resources, links to research articles and video clips of therapeutic interventions:

Whether the children are actually following [the appointments]…sharing impressions of things as well

It might kick out reminders…beep, beep, so and so has to go to [SLT] and she hasn't attended for the last two

> It should have as much information as possible in terms of resources and what can be done

> Up to date research …if there was something significant that was earth shattering or if it was something new that ought to be documented

One teacher commented that they wouldn't like anything else additional to be added:

> I wouldn't like to see much more really

4.3 Thematic network 2: Potential incentives to use the web portal

The Global Theme for this network is the potential incentives to use the web portal. It is constructed from three Organising Themes and thirty-two Basic Themes (figure 3). The Organising Themes comprise of why collaboration between SLTs and teachers is necessary, including what the advantages of collaboration are, what facilitates collaborative practices, and what the perceived advantages of using a web portal for collaboration would be. They will be described below.

4.3.1 Necessity for and advantages of collaboration between SLTs and teachers

All participants responded that they felt collaboration between SLTs and teachers was necessary. Reasons for this perceived necessity to collaborate were similar from both groups and included: having large numbers of children in school with speech and language difficulties and the importance of language to literacy and academic achievement; the overlap between SLT focus and curriculum focus; the fact that many children are attending resource teachers specifically for their speech and language difficulties and supporting the resource teacher and class teacher in setting, planning and achieving specific goals for the children:

> A lot of the children we see are school aged children…so therefore teachers working with those children are valuable…. helping us do our work… gaining information… teachers providing help with carryover, providing information that cannot be obtained from parents about the child in their everyday environment in the school, peer interactions, social interactions and also informing us about progress

> Basically underpinning everything we are trying to do in the schools is oral language programmes…the biggest difficulty they have in literacy is their lack of vocabulary and not being able to express themselves or receive language so it's key

> For shared goal setting…there's lots of overlap with the academic stuff and the SLT work so it's essential that we're all on the same page

Moreover, many of the advantages to collaborating were mentioned, thus supporting the necessity to engage in collaborative practices. Common advantages expressed were: professional development and new learning; increased awareness of each other's roles and improved working relationships; teachers having a better understanding of communication difficulties; SLTs obtaining a fuller, more holistic view of the child from the teacher and the impact their difficulty is having on the school work; with the overall aim of both professionals to facilitate greater progress by the child by working together and enhancing each other's work, thus making their jobs more interesting, rewarding and satisfying, as shown below:

> The overall advantage would be the welfare of the client is improved. Benefit to the client, fostering working relationships…it improves SLT knowledge of schools and the workings of schools…teacher's knowledge of SLT and our role and how the service works

> The child gets a much more holistic and a more rounded service

> It makes work more interesting…it makes work very rewarding…there's a lot of job satisfaction coming from it

Additional support for the necessity and advantages of collaborating expressed by SLTs and teachers were the ability of schools to help increase attendance at appointments, acting as substitutes for lack of input from parents; increased cooperation from a child with a teacher than with a SLT, leading to better outcomes for the child and sometimes faster progress, as these quotes illustrate:

> It helps carryover from therapy. If the child is working on things in the clinic room, in the classroom, in the learning support room, and at home, it's more likely that what you are teaching them in therapy will transfer into everyday life

> An awful lot of the children in the school need SLT and the most effective way for this to happen is for the SLT to give us work to do with kids because the parents have a proven track record of not keeping up visits to the SLT

> Some teachers are pretty strict so they actually can be quite successful at working on tasks that we want worked on…we get excellent outcomes from teachers without us having to put all the donkey work into it

4.3.2   Factors that facilitate collaborative practice

Teachers and SLTs both commented that the facilitators of collaborative practice are openness, flexibility, good interpersonal relationships, sharing resources, understanding of each other's roles, and formal supportive structures including encouragement from management:

> There has to be an amount of goodwill until there is a formal structure put in place for things to be nailed down more

> Professional openness as opposed to the ivory towers syndrome

> Arguably personalities could get in the way and it also depends on the school's whole attitude, just how open and responsive and encouraging they are of other agencies being involved

> I think support from the people who are above you…my manager is supporting, she sees the role of collaboration as being an important one…and I think in turn I can certainly see

principals who are supportive…it all goes so much more smoothly than in other schools that I go into...so what comes down from the top certainly sends a message

Teachers added that goodwill, understanding of the nature of disabilities, meeting in the school setting, and provision of training facilitated collaboration:

Openness and willingness to learn I suppose

Opening the teacher's eyes to the actual specific lack of language that many children have

The fact of the SLT coming over to the school and meeting with us here has been hugely helpful and actually getting to know the teachers and vice versa

SLTs added other facilitators: mutual respect, enthusiasm, shared expectations, equal contributions, experience of collaborating with other professionals, and a child-centred school ethos, for example:

You need the enthusiasm of the teacher involved

I suppose it's knowledge that people bring to the situation, so depending on past experience

I think things that would have worked well would have been where maybe there's more kind of general knowledge of what's involved

The culture in some schools, there is a culture of being very child-centred and getting people involved as needed for the child

4.3.3 Perceived advantages of using a web portal for collaboration

Descriptions of many of the perceived advantages of using a web portal for collaboration were similar from the two interest groups. SLTs and teachers both expressed potential advantages of saving time, easier and more

convenient access to ongoing communication and resources that could benefit the child, providing accessible reliable information which could support teachers and increase their understanding of speech and language difficulties:

> That would really remove…the time waiting for phone calls, replying to phone calls, getting back to people. Teachers could log on at a break or when they have a minute. We could log on when we have an appropriate time

> To actually have information like that at the click of a button…I think that would save a lot of time and energy

> It's the ultimate in terms of sharing information

> It would enable teachers to up-skill themselves

Additionally, SLTs maintained the advantages of using a web portal would be producing a written record of collaborative attempts, having organised links to relevant information, facilitating working from home, savings in travel expenses and in terms of less paper wasted, putting a structure on the collaborative process and a potential to foster greater links and positive relationships in an innovative way:

> In terms of paper and carbon footprints and all that it would be good

> I think a lot of teachers in schools feel really lost and left on their own, like they don't know who to contact, so even having a system that allows them to find out who the SLT for their area is, how you would meet with them, then they may feel more part of a supported system

> A kind of organised link, so acknowledging the link between the two areas of school and SLT and just saying that we are two disciplines that are obviously associated and therefore we have this joint forum, that it makes sense for us because we know each other and we need to know each other. I think that would in itself encourage positive relationships

Teachers claimed further advantages would be enabling a more holistic view of the child and increasing collaboration:

> It just gives you an overall picture of the child… at your fingertips

> If it furthered communication there's a greater possibility of the effort being more collaborative

> If teachers were able to check the 3 or 4 children in their class who were going to speech therapy they would be able to follow it up more consistently

4.4 Thematic network 3: Potential disincentives to use the web portal

The Global Theme for this network is the potential disincentives to use a web portal for collaborating. It is constructed from five Organising Themes and forty-seven Basic Themes (figure 4). The Organising Themes comprise of feelings of lack of necessity for collaboration between SLTs and teachers, disadvantages to collaboration, factors that hinder collaborative practice, barriers to computer and potentially to web portal use, and perceived disadvantages of using a web portal for collaboration. They will be described below.

4.4.1 Occasions when there is a perceived lack of necessity for collaboration between SLTs and teachers

Approximately half of all informants (six teachers and five SLTs) felt that there was never a time when collaboration was not required:

> I don't see a time when it wouldn't to be honest

> I don't really…collaboration is very rarely the wrong way to go

However, other teachers and SLTs remarked that collaboration is not required if parents are managing the difficulty successfully at home, if the

difficulty is not severe or when the collaboration is not purposeful, as reported below:

> There may be some issues that a child can have that their parents can happily address and I don't think we should be using extra resources when they're not required

> It could be a milder form of disability that the child has…less severe…we may be able to work quite well without collaborating

> I think collaboration for collaboration's sake is really a waste of time

One teacher felt that collaboration would not always be vital but would be advantageous:

> I think there are times when it mightn't be essential but I think it will always be of benefit

Other teachers added that collaboration is not necessary if a teacher had previous experience of a similar speech or language difficulty or if there are resources in the school to work with the child on that difficulty:

> If teachers have worked through the little scheme, that teacher, the next time will be able to sort of forge ahead herself

> I think within school systems, teachers collaborate with each other…the internal agencies of the school can often come up with the solution to the difficulty you might have in class. It's not always necessary to have an outside agency

4.4.2 Disadvantages of collaboration

A large proportion of the participants (nine teachers and seven SLTs) stated that they thought there were no disadvantages to collaboration:

> I can't think of any really…it's a win-win situation

Conversely, disadvantages of collaboration expressed by other informants related to their workloads and working practices. Many SLTs described the

disadvantages as time consuming, and others mentioned the increasing to their workload, placing extra demands on the service, and stress inducing if doesn't run smoothly:

> You've to work more time into your schedule…it's more time consuming

> Increased workloads

> If it's not working well it can be quite stressful

Certain teachers commented that the disadvantages were upsetting the routine of a class, worrying parents by having other professionals involved and SLTs forcing a plan that the school disagreed with:

> The only one I would see where it was upsetting the routine of the class

> Parents sometimes are anxious if there are other professionals brought in to intervene

> Unless a therapist was trying to push a particular course of action onto a staff that they want

4.4.3 Factors that hinder collaborative practice

All participants mentioned lack of time as a major factor that hinders collaborative practice. This was often due to demanding workloads, as the following quotes illustrate:

> When you are a busy therapist and…you are trying to offer as many appointments as possible, collaboration may fall a little bit down on the list...it can be difficult just to find that time…to follow up on school programme, make sure you get a visit done, meet with the teacher

> Time constraints I suppose…what is it they say, 'whenever society's got an issue, the schools have to scratch it'….so a teacher is trying to teach A,B,C,D,E and then it's like, well this child has a speech delay, we need to do this as well. It's another chunk of the day gone and with 20 kids, maybe 22 or 23 in a class, it's just not possible for a teacher to give the time to a

child…it's back to resources I suppose but the curriculum is already very, very overloaded…and they can't be missing things out just to stick in another bit that's not on the curriculum, however valuable it may be

Further hindering factors shared by both groups were negative attitude or lack of willingness to collaborate, personality clashes, different training backgrounds, limited staffing resources and high levels of staff turn-over:

Interpersonal relationships…the personality input…it very much depends on who is doing it

There's a school of thought out there that could be very 'you know, we've enough on our plate'

Arguably personalities could get in the way and it also depends on the school's whole attitude, just how open and responsive and encouraging they are of other agencies being involved

I think stability, and I guess it comes from SLT changeover of staff as well…if it's a new therapist, they've got to go from scratch. That's very difficult for them to collaborate with the new person all over again

A number of teachers felt that other factors hindering the collaborative process were: insufficient funding; lack of knowledge or skills in the area of speech and language difficulties; feeling threatened by other agencies; and when collaboration is left solely to one or two individuals:

Many people feel a little under skilled in the whole area [of SLT]

Some people, especially people who have been in the system a long time, would find that very, very difficult, that somebody might be coming in and saying this is what you need to do to help this child. They might think 'I know what to do. I've been doing this for 25 years'

It can't be based on one teacher or one SLT because if they leave the whole thing falls down

A few SLTs thought additional factors hindering collaboration were: schools' lack of understanding of SLT services and terminology and SLTs' lack of understanding of an educational context; different governing departments; dissimilar working hours; high unrealistic expectations from teachers of what SLT services can provide; unsupportive management; shortage of formal training on how to collaborate effectively; lack of specific policies in relation to collaboration between teachers and SLTs; and unavailable space or accommodation suitable for collaboration.

> If we had a shared terminology…so maybe when teachers were training they learned a little more about health and speech and language and vice versa…if we were more aware of the curriculum and the demands facing teachers we'd be a bit more specific in our goals

> Different views and lack of understanding

> Because we're employed by department of health and they're department of education, that in itself creates challenges, even in terms of your working day, your working hours, your holidays

> At the moment they are two very different pillars, you've got education and you've got health and there is no real collaboration on a strategic point of view

> Policies and practice…a lot of this isn't particularly written into policies yet…so there's something that needs to bridge that gap from policy to practice

> In terms of legislation and practice there's nothing saying that teachers and SLTs should work together so there's no time given to it…there isn't the paper work there

> I suppose in the school environment itself it can be a little bit hectic in terms of the accommodation that they have to offer. Quite often we do our collaborating in the school hall or in the corridor of in the staff room with people going in and out

4.4.4 Barriers to computer use and potentially to web portal use

Potential disincentives to use a web portal may stem from the barriers to computer use in general. Only four informants felt there were no barriers to them using a computer. Common barriers mentioned by the remaining participants were time constraints and lack of IT skills and knowledge, especially amongst older staff members, as described by the following comments:

> Some of the older teachers wouldn't be totally confident

> I suppose if you were somebody that didn't have good computer knowledge

> My own ignorance and time

SLTs described technical faults as a barrier:

> Technology lets you down

while teachers gave details of broadband difficulties in the school, cost and obtaining funding to meet the cost, maintenance, lack of interest in technology, and a perception that it is quicker to write things than use a computer:

> The only barrier that arises from time to time is the broadband in the school…the broadband is down for a week and that can be an issue

> There isn't funding for it

> Support to either update or add on

> It's so laborious for me at the moment, it's actually quicker for me to take out pen and paper

There was a general consensus that the principal barriers to using a web portal for collaboration stemmed from concerns around security and confidentiality:

> I would have issues around consent and freedom of information

> Security…I don't know if it was my child whether I'd be comfortable

> It's a bit silly really in a way, there seems to be less fear with something that can be put away in a filing cabinet than something that can be on a computer…people feel if it's in hard back you can sort of control who looks at it

Lack of IT skills and knowledge, technical maintenance of the portal, and a fear of putting sensitive information in writing leading to less or minimal information shared were also shared concerns, as illustrated:

> If teachers aren't au fait with computers…not everyone is a whizz on the computer…some people are terrified of computers and a lot of them would hate to try and use them

> The problem with that kind of IT system is that obviously it is highly IT-dependent and if something happens to the computers and they break, people don't have access. This isn't private industry and there's no funding to keep the technical support

> They'd tell you things face to face they wouldn't be feeding back on if…there was a computer record…something that they notice that they might say to you but they wouldn't write it down

Teachers also conveyed their opinions that lack of access to computers, obtaining parental consent, and a belief that this is not part of their job specification and hence unwilling by some to use it, could be barriers:

> Maybe in schools they mightn't all have access and maybe it might be an issue if there was only one computer between all the teachers

> Parental permission

> People who are particularly involved in the union would definitely object to that. They would say 'that's not part of my job spec.'…some teachers might say 'I'm not doing that' and they'd be perfectly within their rights actually…it's not what you're employed to do

SLTs stated that cost of designing and building a web portal, lack of training in how to use the web portal properly, if it was not user-friendly, potential teacher's unwillingness to use it, and resistance to change could be barriers.

> I don't know who would fund it, it would be an issue as well

> It would have to be quite user-friendly in order to be attractive for people

> Maybe not everybody would be keen on the idea and I suppose you would have to have everyone on board if it was going to take off properly

> [Teachers] might say 'well we don't have time to log onto this resource'. They might see it as an extra piece of work, that we've got to do this and talk to SLT now, it's another burden

> Pre-conceived ideas about things, how they were always done in the past, never had to use this, we do have to use this now

4.4.5 Perceived disadvantages of using a web portal for collaboration

Teachers and SLTs both mentioned their fear that the collaboration via a web portal may become very impersonal and not as effective as face-to-face contact, perhaps even reducing collaboration:

> I guess for me the whole concept of collaboration is around sitting down, face to face…and in some way having it on a computerised version, just for me anyway, probably my old fashioned way of thinking, probably takes away from that

> There are gaps you'd have to close, and the personal contact as well…that's only information on the screen to you there, but there's so much more there would be from contact with people's body language, tone of voice, just interpersonal communication that goes on

> It might reduce the personal contact with teachers substantially which would then impact on how we would collaborate with teachers…after trying so hard to establish our profession and to make those links, we don't really want to break those

Also, both interest groups expressed a perceived disadvantage that it would be an extra work burden:

> If it's another database, another administrative load

> Who would be responsible for maintaining the information on it, because…it would take a lot of time for that person to do

> Adding to the burden of work

Moreover, teachers commented that the disadvantages could be a loss of a paper record of input or less SLT therapeutic interventions in the school.

> Maybe the paper trail…in case there was trouble down the road and somebody did bring a case saying their child wasn't dealt with…I'd be maybe a little concerned about electronic paper trail

> The likes of [SLTs] may never be in our school

A few SLTs believed a disadvantage could be a risk that teachers may not refer a child for a full SLT assessment when necessary, but instead work possibly inappropriately with the child with available resources.

> I'd be afraid that they might decide not to refer

> If you put something on 'how to work with speech difficulties' and then a teacher thinks 'oh, I've a child like that. I'll just use that approach', whereas obviously we train for four years as SLTs is because you need to match things very specifically to a

child and that you can't just pick a programme off the shelf
and apply it

4.5 Thematic network 4: Supports that could facilitate optimal use of a web portal for collaboration

The Global Theme for this network is supports that could facilitate optimal use of a web portal for collaboration. It is constructed from two Organising Themes and sixteen Basic Themes (figure 5). The Organising Themes comprise of other methods of communication and collaboration that would still be necessary and additional support that could facilitate optimal use of a web portal for collaboration. They will be described below.

4.5.1 Other methods of communication and collaboration that would still be necessary

All informants indicated that they felt other methods of communication would still be necessary, namely phone contact and face-to-face meetings.

> I don't think you'd ever stop people ringing people…I don't know if it would replace…meetings that you have

> Well, the old face-to-face or the telephone call. You can't beat that, sure you can't? Developing a relationship with the people you are dealing with, you put a face behind the voice on the phone. There is a lot to be said for that

The reasons given were: the belief that collaboration is most suited to face-to-face methods of communication; the difficulty when there is need to discuss with a large group of people; the perceived benefit of meeting somebody face to face and putting a face to a name; the possibility of a face to face meeting breaking down any potential barriers to collaboration; and an opinion that people would not be comfortable putting certain pieces of information in writing:

> Our work is so interpersonal that it's a key piece, I think, meeting up with somebody and discussing the issues face to face

> You'll always have meetings because you get more from meetings and people will say things that they won't write down, and that's life

> Nothing beats meeting somebody, putting a face, putting a name… it's just nothing beats making a few minutes and telling somebody something

> It's nice to have the sort of, because you know who you are talking to then…you've made the personal connection. We don't want to get totally cyberised in this

> They say 90% of communication is non-verbal I think, so I think writing it down isn't always the best way. You see how people get annoyed over emails and text messages and all these things because they really can't see the meaning behind what's written down or it can be so taken out of context

There was a feeling expressed by some that a web portal's function would be best served by being an enhancement of existing practices of school visits and phone calls, rather than a complete replacement:

> I think the [web portal] would enhance the school visits and the phone calls. It would only be an enhancement

> It's great to be able to lift the phone and talk to somebody…I think that's still important that it would be in place

> I would still like the phone to be there as well

> I suppose that we, as therapists, would still make the time to make a school visit and still be visible in schools too so they didn't think that we were leaving it all up to the web

4.5.2 Additional support that could facilitate optimal use of a web portal for collaboration

Only two informants felt that no additional support would be needed:

> If it was well designed I'm sure I'd be able to use it easy enough

I don't think so. I'm at the lower end of the scale of the school in using all of this kind of stuff and there's always people to call onto to give a hand

The majority of teachers and SLTs expressed an opinion that developing IT skills and training in how to use the web portal would be required:

I suppose you would need training initially. I suppose we are all coming at it with different levels of technology knowledge and you have some people who are still terrified of computers…I suppose different people would need different amounts of training

Quick training to know what to do

Training definitely both in the education setting and the SLT setting

Teachers described how the following additional support would be needed: monitoring who was using the web portal from the school; specified policies in appropriate use of the web portal; including parents in dialogues that are happening via a web portal; and funding for IT, as portrayed below:

The school would need to monitor as to who was using it…I suppose the school would set up conditions for that"

Parents need to be part of the loop so how do you include them as well

Schools need…more funding…funding would have to come into play in schools for IT

SLTs specified that additional support would be needed in the form of: consultation from an expert in data protection; technical maintenance of the web portal; professional monitoring of the content; having a specified person to contact in relation to queries or concerns about the web portal; and evaluating the web portal.

You'd have to get an expert in the field [of data protection] to look at it

Making sure somebody is watching it to make sure that people aren't putting content on it that's not appropriate or relevant

Some kind of a review of how it was going for people…evaluating it, reviewing it down the line

Professional support as well to make sure that the information that's there is appropriate and that it's going to be used in the right way and possible customer feedback as well to ensure that it is actually doing the job that is intended

4.6 Summary of Global Themes and Thematic Networks

The above Global, Organisational and Basic Themes and the Thematic Networks that illustrate them (figures 2-5), provide a structure to the wealth of data that emerged from the two interest groups interviewed. The next chapter will discuss how these Thematic Networks (the desired specifications of the web portal; the potential incentives to use the web portal; the potential disincentives to use the web portal; and the supports that could facilitate optimal use of the web portal), relate to existing literature and also the implications for designing, building and using a web portal to enhance collaboration between SLTs and teachers.

5 Discussion

This chapter will discuss the findings obtained from the research undertaken and put it in context with the existing knowledge. It will highlight Irish SLTs' and teachers' perspectives about their collaborative practices, the desire for a web portal to augment and not computerise current practices, and the implications for designing and using a web portal to enhance collaboration between SLTs and teachers, including how to capitalise on potential incentives, address potential disincentives and evaluate the web portal effectively.

5.1 Increased understanding of Irish SLTs' and teachers' perspectives about their collaborative practices

The data from the participants in this study increases the understanding of Irish SLTs' and teachers' perspectives about their current and desired collaborative practices. It is clear from the results that Irish SLTs and teachers identify similar benefits and barriers to collaboration that have been found in other studies around the globe (Gascoigne, 2008; Sadler, 2005; Hartas, 2004; Tollerfield, 2003; Lindsay *et al*, 2002; Paradice & Adewusi, 2002; Wren *et al*, 2001; Law *et al*. 2000; Rinaldi, 2000; McCartney, 1999).

The informants highlighted a desire for greater support for collaboration by having more time and more regular contact, increased understanding of each other's roles and having SLTs integrated more into the education setting. Of importance, unlike other countries, the Irish Department of Education and Science and Department of Health and Children have no specific policies or procedures in place to support collaborative efforts. Joint working is recommended in their respective national policies (DHC, 2007; 2006; 2000; 2001a IASLT, 2006; DES, 2005) but it is not specified as to how this can be accomplished in a practical way. As a result, the

participants indicated that collaboration between SLTs and teachers in Ireland is often haphazard and dependent on the motivation of individual practitioners and support of individual managers and principals, who may vary on their personal opinion of the importance of collaboration. Perhaps the lack of collaboration between health and education in its broadest sense filtering down to lack of specific and practical policies and lack of integration is the greatest barrier of all in an Irish context. It identifies a need for blurring of boundaries between health and education as advocated by other studies (Gascoigne, 2008; Tollerfield, 2003; Law *et al.,* 2000). The introduction of a web portal could play an important role in diminishing these boundaries, aiding discussion and development of more specific policies in relation to collaboration, thus leading to the desired support for improved and augmented collaborative practices.

5.2   Augment current collaborative practices instead of computerising them

The first step in any new ICT system is to involve users in the design (Zaphiris *et al.,* 2006; Schuster *et al.,* 2003; Miranda *et al.,* 2001), as this study has undertaken. Gaining a full understanding of current practices and processes and the technical specifications required by the users for a web portal was deemed critical. The findings indicate that a web portal could enhance collaborative practices if it could augment existing practices via, for example, increased flow of information and easier access to relevant resources. A full list of the desired specifications abstracted from the data can be read in Table 10 overleaf. These specifications have been categorised by the researcher under the themes of informational, supplementing a child's SLT record, supplementing school records, availability of resources, and links to other professionals and services. This list demonstrates the participants' desires that the web portal would facilitate the enhancement of existing practices and aid the sharing of information that is currently not routinely provided. It illustrates the desire that Irish SLTs and teachers have to overcome barriers to collaboration and also the potential of a web portal to support this. Indeed, ICT systems

have been recognised by others as having the ability to revolutionise services (Hebe, 2004).

Table 10: The desired specifications of the web portal

Desired Specifications	
Informational	- practical information about school opening hours, holidays, staff members - basic information about SLT in general, the SLT service and SLT related diagnoses - two-way messaging system between SLTs and teachers - discussion forums
Supplementing a child's SLT record	- teachers sharing impressions of the child/family - relevant school records (e.g. attendance) - a capability to receive feedback and messages from teachers
Supplementing school records	- access to child's SLT record (including when a child was referred, dates of appointments, outcomes of assessments) - details of upcoming SLT appointments for pupils - lists of pupils who did not attend SLT appointments - reminders of appointments - indications if a pupil was accessing other services
Availability of resources	- access to SLT materials and resources - links to research articles - a template for IEP planning - online checklists for teachers to help identify if a child needs to be referred to SLT service - video clips of therapeutic interventions
Links to other professionals and services	- links and interfaces to other relevant services and agencies - a facility to collaborate with wider educational staff such as educational psychologists - links to community services available

However, the findings explicitly indicate that a complete revolution is not desired. Every one of the twenty-four informants felt traditional methods of communication would still be necessary (i.e. telephone, face-to-face meetings), suggesting that a web portal could not completely replace current practices, only augment them. This may be due to factors identified

in the literature that negatively affect computer use, such as attitudes, computer experience and gender (O'Connell *et al.,* 2004; Tang & Ang, 2002) or that online communication is second rate (Alemi *et al.,* 2007). Alternatively, it may be explained by the fact that the informants were unable to imagine how such a technological method of collaboration could replace existing processes without having a model to see and trial (Bossen, 2007; Nowinski *et al.,* 2007; Crosson *et al.,* 2005). Furthermore, the fear of litigation could contribute to the desire to maintain phone and face-to-face contact, as oral communication would bypass the need to put sensitive information in a written format. The findings suggest a fear of putting sensitive information in writing. Common practice is to share this 'off record' in an oral manner because perhaps it may be inappropriate to be sharing the data in the first place or so that the data cannot be subject to disclosure under the Freedom of Information Act or Data Protection Acts (Data Protection Commissioner, 2008). This issue needs to be addressed by the professional bodies of both health and education to ensure adherence to the legislation and ethical principles of the profession.

If, as desired by the participants, the web portal would enhance and not replace current collaborative practices, then what would be the implications for the design and use of the web portal? This will be discussed in the next sections.

5.3 Implications for designing and using a web portal to enhance collaboration between SLTs and teachers

The findings clearly specify the implications for designing and using an innovative web portal for collaboration between SLTs and teachers, including; the desired specifications to augment and not replace current practices discussed above; potential incentives and disincentives to use it; and supports that could facilitate optimal use. If the web portal is to enhance collaboration between SLTs and teachers, it will be imperative that

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the supports are provided to capitalise upon potential incentives and to understand and outweigh potential disincentives.

5.3.1 Potential incentives to use the web portal

It is clear from the data that the majority of the participants see no disadvantages to collaboration (sixteen of the twenty-four participants). This bodes well for an incentive to use the web portal. As discussed in section 5.2, the potential of a web portal to enhance current collaborative practices would also be an incentive for its adoption and use. Moreover, the data suggests that other incentives to embrace a web portal for collaboration would originate from the benefits reaped from collaboration. The benefits that participants mentioned to the child, the class, the school, the teachers and the SLTs were similar to findings of other studies (Gascoigne, 2008; Tollerfield, 2003; Lindsay & Dockrell, 2002; Wren *et al.,* 2001). However, training may be required to support all practitioners in appreciating these benefits (Law *et al.,* 2002; Rinaldi, 2000).

Furthermore, there were other factors extracted from the data that would be potential incentives to use the web portal, namely producing a written record of collaborative attempts, having organised links to relevant information, cost savings, and fostering positive relationships. Undeniably, the key features of any web portal is organising, integrating and improving access to information and creating more accessible opportunities for communication and support (Ryymin *et al.,* 2008; Microsoft, 2007; Cox, 2006; Sloper, 2004). In the case of collaboration between SLTs and teachers, there would be incentives to use a web portal if it could address the findings of this study that there is a desire for more regular contact (e.g. easy access to messaging and data through the web portal at a convenient time), increased understanding of each other's roles (e.g. accessible links to information, training videos, research articles) and having SLTs integrated more into the education setting (e.g. having the facility to share assessment results and resources more readily). An appreciation of these user requirements and potential incentives will be vital to the successful

implementation of the web portal. Similarly, an acquaintance with the possible disincentives will be necessary.

5.3.2 Potential disincentives to use the web portal

The challenge to promote any innovative project is to gain both an understanding of the barriers and disincentives and an understanding of the supportive actions that can be taken to enable this (Ludwick & Doucette, 2009; Dawes, 1999).

The data of this study indicates a fundamental disincentive to using a web portal for collaboration originates from lack of IT skills and knowledge and lack of funding for purchase and maintenance of IT equipment. In this study, twenty of the twenty-four informants mentioned a barrier to using a computer, supporting the call by others for improved professional ICT training and support (DES, 2008a, 2008b; van Braak, 2004; Latchford, 2002; Moynihan, 2002; Alderman, 2000). As discussed earlier (section 2.4.1), a limited number of studies include formal economic analysis of ICT applications, such as web portals (Currell *et al.,* 2000). However, it is important to remember the cost cannot be the only factor in providing support for a child who has a speech, language or communication impairment. Instead, it will be important to appraise the cost of implementing a web portal (e.g. equipment, maintenance, technical support and training) with a social audit analysis, in which a "matrix of data on monetary items plus information on non-monetary benefits is produced" (Hailey, 2005, p.277).

Of central significance from the findings is the general consensus that SLTs' and teachers' concerns about security and confidentiality would be the chief disincentives to using a web portal. Other studies of ICT adoption have reported similar concerns that fears about security affect users' acceptance (Ludwick & Doucette, 2009; Croll & Croll, 2007; Brender *et al.,* 2006) and it has been confirmed that human factors are equally as important as technical factors when it comes to introducing new ICT

systems (Ludwick & Doucette, 2009; Yusof *et al.,* 2006; Brender *et al.,* 2006; Kaplan, 2001; Jiang *et al.,* 2000). The apprehension of the users would need to be addressed to ensure the success of the web portal, through education and reassurance that quality standards and codes of conduct will be adhered to (NSAI, 2008; URAC, 2008; Nawrocki & Radziszowski, 2006; Bellazzi *et al.,* 2001), as discussed in section 2.4.2.1 earlier.

Additionally, the findings suggest that some SLTs and teachers may be deterred from collaborating, and therefore deterred from using a web portal for collaboration, if there was a perception that collaborating was not necessary for a particular child, due to successful parent management, experience of teacher, or a difficulty that was not severe. This may stem from teachers' lack of understanding of the nature of communication difficulties and their impact (Paradice & Adewusi, 2002) or SLTs' need to prioritise resources to those children with more significant difficulties due to staff shortages (McCartney, 1999). Interrelated to this, the data suggests that SLTs and teachers may be discouraged from collaborating, and consequently discouraged from using a web portal for collaboration, because of existing demanding workloads. The data was comparable to previous studies (Gascoigne, 2008; Sloper, 2004; Hartas, 2004; Mukherjee *et al,* 2002), with lack of time being the most commonly cited barrier to collaboration. However, with a user-friendly design and appropriate education and training, it would be envisioned that collaborating via a web portal could mean a more efficient use of time and less demanding workload, as this ICT system would have time-saving drop down menus, easy and quick access to client information and resources and be available at a time outside class hours.

If the above disincentives were addressed and managed as proposed (i.e. increased IT funding, improved IT skills and knowledge, assurance of security and confidentiality, better understanding of the nature of speech, language and communication difficulties, decreasing workloads by more efficient use of time), the findings suggest that the remaining disincentives to address would solely relate to human characteristics of personality and

attitude. The data emphasises personality factors (e.g. unwillingness to collaborate, personality clashes) and negative attitudes (e.g. a belief that SLTs may force a plan the school disagrees with, teachers feeling threatened by other agencies, SLTs perceiving that teachers expectations are too high, teachers believing it is not part of their job specification and is an extra workload) as being significant disincentives to collaboration. Tollerfield (2003) and Hartas (2004) reported similar concerns.

Hence, the findings specify the need for better understanding and more positive attitudes to collaboration, and to ICT systems such as web portals. Firstly, training will be required to educate and reassure staff. Perhaps, as Law *et al.* (2000) advocate, it is necessary to introduce joint training for SLTs and teachers on effective collaborative work, which has proven to be critical for these professionals to work successfully together (Gascoigne, 2008; Tollerfield, 2003). Similarly, previous studies have found that training is a major determinant of ICT adoption and integration of new technologies into clinical practice (Poon *et al.,* 2004; Knonick, 2003; Allen 2000). Similarly, in education, greater training has led to higher levels of support and class use of computers (Galanouli *et al.,* 2004; Tan *et al.*, 2003).

Secondly, May *et al.* (2003) outline propositions that are required for normalisation of an ICT system: positive linkage between policy level sponsor and local champions to ensure appropriate resources, development of organisational structures to ensure it is viewed as legitimate, enrolment of mixed multi-disciplinary team members, and development of new policies and procedures to ensure it is integrated into daily activities. It will be imperative that specific guidelines will be required for the web portal use on top of the policies, rules and guidelines that govern traditional collaboration between SLT and teacher. The Dept. of Health and Children (2001) and the Department of Education and Science (2008) have shown support to putting policies in place to support ICT projects. However, these policies require motivated and flexible clinicians and teachers to put them into practice. Indeed, some argue that the success of web applications relies as much on the skills of the clinicians as it does on the suitability of

the technological components (Miranda *et al.,* 2001; Stanberry, 2000). Consequently, local champions will need to be recruited to change the status quo of existing practices and policies, and drive the project forward in a successful and optimistic way.

Finally, as with all technological designs, obtaining the users' needs and requirements and involving them in evaluation will be vital to the success of the web portal development (Yusof *et al.,* 2008; Zaphiris *et al.,* 2006). Evaluation, as with any ICT system, should be an iterative process (Balas & Boren, 1999) and include an investigation into user's satisfaction with the system, clinical outcome changes resulting from using the system, and the economic benefit to the organisation (Coiera, 2003). Additionally, the human, social, organisational, contextual, cognitive and cultural factors that affect system use and acceptance should be evaluated (Yusof *et al.,* 2008; Chiasson *et al.,* 2007; Kaplan & Maxwell, 2005; Kaplan, 2001b). In this instance as data will relate to young children, parents' satisfaction with the initiative should also be examined. The requirements and evaluation data could be gathered via surveys, interviews, analysing bug reports, and making a number of on-site observations (Zheng *et al.,* 2005). Evaluation should also be cognisant of Wears & Berg (2005) descriptions of how trained professionals who observe real use in real situations can often give more information about successes and failures and preferences than the clinicians themselves. Continuous evaluation and audit will need to be a vital component of the web portal implementation to identify and manage any possible risk factors to its success and facilitate necessary changes in policies, training and practices in the future. Thus, ensuring the most successful adoption of this innovative proposal.

5.4 Conclusion of discussion chapter

This chapter has discussed the findings extracted from the study in relation to the existing literature. It has highlighted the perception of Irish SLTs and teachers that changes are needed to their collaborative practices, including specific policies or procedures in place to support collaborative efforts and

the blurring of boundaries between health and education. This chapter has also described the specifications required by the participants for the design of the web portal under the headings of informational, supplementing a child's SLT record, supplementing school records, availability of resources and links to other professionals and services. Moreover, this chapter has discussed how to capitalise on potential incentives to use the web portal and how to address potential disincentives via: increased IT funding; improved IT skills and knowledge; assurance of security and confidentiality; better understanding of the nature of speech, language and communication difficulties through joint training; decreasing workloads by more efficient use of time; supporting local champions; and developing organisational structures and new policies and procedures to ensure it is integrated into existing processes. Finally, this chapter has described how to evaluate the web portal effectively through adopting a multi-factorial approach.

The next chapter will be the concluding chapter of this study. It will provide a brief overview of the study, describe the limitations of this research and consider directions for future work.

6 Conclusions, Limitations and Future Directions

This chapter will provide a brief overview of this study, the research findings and the implications for designing and implementing a web portal for collaboration between SLTs and teachers. It will also outline the limitations of the study and suggest directions for future work.

6.1 Brief overview of the study

6.1.1 Background and context of the study

Collaboration between SLTs and teachers is viewed as crucial to supporting school-aged children with speech, language or communication difficulties (Gascoigne, 2008). While there are copious benefits to collaboration documented for the child, school, teachers and SLTs (Tollerfield, 2003; Lindsay & Dockrell, 2002; Wren *et al.,* 2001), there are also many barriers identified: functional, structural, process and system-environment (Sadler, 2005; Hartas, 2004; Law *et al.,* 2000; Rinaldi, 2000; McCartney, 1999).

Web portals have been used by health providers and patients, and by educational professionals and students with good success (Zickmund *et al.,* 2007; Microsoft, 2007; Farrell *et al.,* 2004). Investigations have reported improved multi-agency working and collaboration, enhanced productivity, easier access to information, social support, and time and cost savings (Ryymin *et al.,* 2008; Microsoft, 2007; Sloper, 2004, Liederman & Morefield, 2003). However, barriers to the introduction and acceptance of ICT applications, such as web portals, have also been conveyed because of concerns around security, litigation, resistance to change, and personal skills and attitudes (Gagnon *et al.,* 2008; Croll & Croll, 2007; Alemi *et al.,* 2007; DeYoung & Spencer, 2004; Layman, 2003; Olson & Olson, 2000).

6.1.2   Objective and research question

The objective of this study was to explore if the introduction of a web portal could potentially enhance collaboration between SLTs and teachers. No such web portal currently exists in an Irish context. Administration of semi-structured interviews investigated the personal opinions of the two interest groups (i.e. SLTs and educational professionals) including: what influences collaboration; what are the advantages and disadvantages of collaboration; what elements do SLTs and teachers consider necessary to be included in the design of a web portal to enhance collaboration; and what are the potential advantages, disadvantages and barriers to the use of a web portal for collaboration.

6.1.3   Methodology

A qualitative methodology was used with the aim of obtaining a deeper insight into the beliefs, perceptions and experiences of the participants about these concepts. The data collected from twenty-four semi-structured interviews was analysed through a six-stage process of thematic analysis, as described by Attride-Stirling (2001). Quality and rigour was aspired to at all stages of this research study, as discussed in chapter 3 section 3.6, thus, increasing trust and confidence in the findings.

6.1.4   Results

Four Global Themes were extracted from the data: desired specifications of the web portal; potential incentives to use the web portal; potential disincentives to use the web portal; and supports that could facilitate optimal use of the web portal. These Global Themes provide a structure to the wealth of data collected and are represented by the thematic networks illustrated in figures 2-5 in chapter 4.

The desired specifications expressed by the informants included informational elements, supplementing a child's SLT record, supplementing school records, easy access to resources and links to other professionals

and services (see table 10 in chapter 5). Potential incentives consisted of the advantages and benefits of collaboration, enabling more regular contact, having a written record of collaborative attempts, easier access to resources and information, increasing understanding of each profession's role, cost-savings, fostering positive relationships and integrating SLTs more into the education setting. Potential disincentives comprised of lack of funding for IT equipment and development of a web portal, lack of IT skills and knowledge, concerns around security, lack of time to use it due to existing workloads, a perception that it may not be necessary to collaborate for some children, and personality and attitudes. Supports that could facilitate optimal use included funding, training, IT support, supportive organisational structures and policies, and having the web portal supplemented by other oral methods of communication.

6.2 Conclusions

According to Mays and Pope (2000, p.52), "research can be relevant when it either adds to knowledge or increases the confidence with which existing knowledge is regarded". This study has shown that it has accomplished both through the use of qualitative methods in a rigorous way.

The findings support previous investigations on what the benefits and barriers to collaboration between SLTs and teachers are. Furthermore, it has emphasised the perception of Irish SLTs and teachers that changes are needed to their current haphazard collaborative practices, including specific policies or procedures in place to support collaborative efforts and the blurring of boundaries between health and education. The introduction of a web portal could provide a forum to address and resolve this disquiet. Ultimately, this could lead to better support and outcomes for children with speech, language or communication difficulties.

No previous studies have explored the potential use of web portal for collaboration between SLTs and teachers. Hence, this study has provided the opinions of both professions on this innovative topic and added

knowledge to both interest groups on the feasibility of using a web portal for collaboration and how it could be facilitated to maximise its advantages and minimise the obstacles.

On the whole, the findings have indicated that SLTs and teachers would eagerly support the introduction of a web portal to enhance existing collaborative practices, but not to completely replace them. This was accounted for by an overwhelming majority feeling that face-to-face communication is superior and cannot be replaced by written or virtual communication. This finding may be attributed to attitude, computer experience, gender (O'Connell *et al.*, 2004; Tang & Ang, 2002) or by the fact that the informants were unable to imagine how such a technological method of collaboration could replace existing processes (Bossen, 2007; Nowinski *et al.*, 2007; Crosson *et al.*, 2005). This study stresses the need for additional exploration of this phenomenon in the future, and that a proto-type of a web portal to trial may have been useful for helping participants have a clearer picture of how communication in a practical way would occur via a web portal.

A further reason given for a web portal to enhance and not replace current collaborative practices was a reluctance to put sensitive information in a written format. This important finding suggests that the professional bodies of both health and education need to acknowledge and address existing breaches of the legislation and ethical principles of the profession in relation to data sharing.

Furthermore, this research study has clearly outlined the desired specifications for the web portal based on consultation with the intended users, thus providing a platform from where design and implementation could commence. The designers and implementers would also benefit from the study's findings in relation to potential incentives and disincentives, and supports that could facilitate optimal use of the web portal. In particular, the need for further education to increase SLTs and teachers understanding of the necessity and advantages of collaboration, and the need for training

about the potential advantages of using a web portal for this collaboration (e.g. producing a written record of collaborative attempts, easy access to messaging and data through the web portal at a convenient time, facilitating more regular contact, having organised links to relevant information, cost savings, and fostering positive relationships). The findings indicate that training and education will also require an emphasis to be placed on developing ICT skills, reassuring users of security and confidentiality, and developing specific guidelines for the web portal use on top of the policies, rules and guidelines that govern traditional collaboration. In addition, this study suggests that motivated and flexible local champions will be required to drive the initiative.

Moreover, this research study provides direction for an iterative, multi-factorial evaluation that will be a vital component of the web portal implementation. It will help to identify and manage any possible risk factors to its success and facilitate necessary changes in policies, training and practices in the future. Thus, ensuring the most successful adoption of this innovative proposal.

On participant posed the question "the old face-to-face or the telephone call. You can't beat that, sure you can't?" This research study has answered through its explorations, that a web portal **would** have the potential to outdo current practices and enhance collaboration between SLTs and teachers, if it received the appropriate support.

6.3   Limitations

As discussed in chapter 3, some limitations to the methodology employed were identified. Firstly, as the author is a speech and language therapist, her previous experience and biases may have influenced the conclusions reached. Some academics suggest employing multiple and independent coders to help increase confidence in reliability of analyses (Pope, Ziebland, & Mays, 2000), which was beyond the scope of this study. However, every effort was made to ensure reflexivity and the results have a transparent

audit trail and can be clearly traced to the original data of the semi-structured interviews.

Secondly, in relation to administration of the semi-structured interviews, the face-to-face method of data collection from subjects, many of whom were previously known to the researcher, may have affected the honesty of answers given by participants and the guarantee of 'critical distance' (Meyrick, 2006). However, the sample also included informants who were not known to the researcher, and it was felt that questioning about a novel web portal would be less subject to critical distance, as they were not commenting on existing services that they had pre-conceived ideas about.

Thirdly, member checking to ensure correspondence between the researcher's account and the research participants was not completed. Some suggest that this can add further to validity (Lincoln & Guba, 1985), but others have refuted this (Morse *et al.,* 2002; Mays & Pope, 2000).

Fourthly, use of computer software packages may have facilitated a more systematic and easier process to organise data (Muhr, 1997; Richards & Richards, 1994), but there are limitations of these packages in linking themes to theory (Pope, Ziebland, & Mays, 2000).

Fifthly, focus groups may have enabled more dynamic discussion and further data for analysis, but not all informants may have been comfortable sharing their views in such a setting (Polit & Beck, 2006).

Finally, the participants had no proto-type of a web portal to explore and trial, which could have augmented their understanding of what it was, what it could like and what the features could include, thus possible reducing their conception of its full potential.

6.4 Future Directions

This research study highlights that further investigation is warranted into the following areas:

- The impact that separate governing departments of health and education has on providing intervention for school-aged children with speech, language and/or communication difficulties

- The phenomenon of why informants feel face-to-face communication is best and cannot be fully replaced by written or virtual communication

- The current common practices of SLTs and teachers to share sensitive information 'off the record' despite specific ethical policies and legislation that oppose this

- Parents' attitude and satisfaction of a web portal between SLTs and teachers for children with speech, language and/or communication difficulties

- The development of a successful training and education programme to ensure successful adoption of an innovative web portal for collaboration between SLTs and teachers

- Trial and evaluation of a proto-type web portal, which has been designed based on the specifications outlined in this study, including further recommendations and additional specifications necessary

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Appendix 1 : Questions for semi-structured interviews

<u>Part A: Collaboration in a general sense and the current situation between SLTs and Teachers in Ireland</u>

1. In your current job, is collaboration with teachers/SLTs necessary? Why? Why not?
2. How would you define/describe collaboration?
   > (definitions in research vary from combining mental efforts/achieving common goals/discussion/joint working/mutual trust and respect/common frame of reference)
3. At present, how do you collaborate with teachers/SLTs?
   > (current practice includes email/phone/letter/fax/through parent/through other professionals)
4. At present, what kind of things do you collaborate about?
   > (e.g. appointments, behaviour in school, outcomes of assessments, programmes)
5. In an ideal world, what other kind of things would you like to share/communicate about/collaborate on?
   > (e.g. lack of attendance, waiting times, resources, school tests, NEPs psychology reports)
6. What affects the quality/effectiveness of collaboration?
   > (research mentions personal factors, idealogical factors, and organisational factors, law - special education, rights of the child, luck)

   a) What facilitates collaboration?
   > (research mentions joint meetings, shared documentation, supportive local policies and organisations, mutual trust and respect, clear understanding of each other's roles, flexible working practices, goodwill, personality, a past history of joint working, creating opportunities for social interaction, compatibility in values and beliefs among staff, personality compatibility, clear objectives, high levels of participation, emphasis on quality, support for innovation and clear leadership, good communication flow, an acceptance of the role of learner as well as specialist, joint collaborative training)

   b) What hinders collaboration?
   > (research mentions 'functional', 'structural' and 'systems-environment' barriers-lack of shared knowledge between professionals, terminology differences, collaboration may be conflict with traditional values of autonomy and professional responsibility, time, resources, training, rigid organisational structures, lack of knowledge of each other's roles, practicalities of arranging meetings, dept of health and education are separate- differences in organisational aims,

historical culture and expectations, the pressures and demands posed by the law, society and government expectations, including targets and league tables, worry about having their decisions being cross examined and, ultimately, their 'territory' intruded, funding, lack of trust and understanding between individuals and agencies, scepticism of any work that could possible replace direct face to face therapy)

7. When is collaboration not required?
   (research mentions may not be appropriate if the benefits to the child are not greater than separate practice)

8. What are the advantages of collaborating with SLTs/teachers?
   (research mentions supporting children, professionals benefitting from their collective knowledge, different skills and knowledge complement each other, empowers school staff, ensures therapy targets are transferred into a broader range of contexts, indirect methods of therapy are equally as effective, the more information-the greater the ability to make an informed decision, generate more innovative solutions, professional development, more efficient, enhance the image of the school/health agency)

9. What are the disadvantages to collaboration?
   (research mentions feeling threatened, invasion of territory)

Part B: Would a web portal enhance collaboration between SLTs and teachers?

10. Do you currently have access to a computer in work? For what purposes?

11. What are the barriers to using a computer?
    (e.g. research mentions ease of use, access, training and attitudes)

12. Have you ever seen/used a web portal? A web portal is "a secure intranet system specifically designed and customised for the special needs of a designated group of people". For example: Yahoo!/IASLT website/Scoilnet/HSE intranet/ Dept of Education portal etc.

13. If there was a specific secure web portal available for SLTs and teachers that you could log on securely to see details of clients, when they were referred, when their appointments were, what the outcome of assessments were, links to resources, and a way of messaging and teachers sharing classroom perspectives - do you think it would be an effective way of collaborating? Why?

14. What else do you think a web portal between SLTs and teachers should include?
    (research mentions link to resources, alerts to upcoming appointments, links to research, secure and confidential, incorporate appropriate levels of training, provide accurate data relating to clinical activity, provide statistical information collated as a by-product of its use, incorporate intervention applications, forums, web communication,

alternative contact details, inventory of web accessible resources, therapy techniques, equipment, literature and courses etc.)

15. What do you think the advantages would be?
   (research mentions quick access, lack of duplication, better attendance, better child outcomes, improved communication, improved understanding, SLT having a better curriculum focus, written record that can be consulted when verbal feedback has been forgotten)

16. Is there anything that could be a barrier to its use?
   (e.g. time, technophobia, security etc.)

17. What would be the disadvantages of its use be?
   (e.g. research mentions reliability of IT system, techno-phobes, scepticism of any work that could possible replace direct face to face therapy, advice might not translate into classroom practice, generate work instead of supporting it, lack of ability to question or probe or clarify further, lack of rapport building through social conversations)

18. Would other methods of communication still be necessary?
   (e.g. face to face/phone/school visits)

19. What additional support would be needed?
   (e.g training – joint vs. separate)

20. Any other comments to make?

Appendix 2: Summary of answers to semi-structured interviews

1. **In your current job, is collaboration with teachers/SLTs necessary? Why? Why not?**

24 participants (100%) answered "yes" to this question. The themes that were deducted from answers to this question were:

- having large numbers of children in school with speech and language difficulties
- the importance of language to literacy and academic achievement
- the overlap between SLT focus and curriculum focus
- the fact that many children are attending resource teachers specifically for their speech and language difficulties and supporting the resource teacher and class teacher in setting, planning and achieving specific goals for the children
- teachers can provide valuable insights into broader areas of the child's development and are in the company of the child for long periods of the day to support areas of difficulty, especially where there is limited SLT time and staff resources
- teachers can help increase attendance of appointments or act as a substitute for lack of input from parents
- teachers seek knowledge, expertise and understanding from SLTs about speech and language difficulties and the children in the school who may require input from SLTs
- overall aim of both professionals is to facilitate greater progress by the child by working together and enhancing each other's work

Reasons given by SLTs	Reasons given by teachers
"if (the child) has an allocation of a resource teacher, usually I would work with them"	"trying to maximise involvement"
	"makes a huge difference to their progress"
"a lot of the children we see are school aged children. They are all attending schools in the area, so	"the number of children who do not attend appointments…to make sure

therefore teachers working with those children are valuable....helping us do our work...gaining information...teachers providing help with carryover, providing information that cannot be obtained from parents about the child in their everyday environment in the school, peer interactions, social interactions and also informing us about progress....they are another professional as part of the team in the community"

"quite important in facilitating attendance...collaboration around setting goals and getting them involved in doing school programmes"

"we are supporting children with disabilities in mainstream schools so there is no point treating their speech and language in isolation of their education"

"it's a major part of my job...it's important for planning....do the IEPs together...and key issues that we need to discuss"

"for shared goal setting...there's lots of overlap with the academic stuff and the SLT work so it's essential that we're all on the same page"

"it's necessary for assessment of children and young people and for therapy inputs as well"

"a lot of the children are of school age so it would be very hard for us to do our work without liaising with teachers, they would be one of the main people who work with them during the day"

the programmes is covered"

"two of the children I take have speech and language difficulties"

"because I am dealing with children who have most need….(there are) 3 in my group that were going to SLT so I have packs that you sent on that I would use and I sort of make a point of doing language with them because I know they're getting the help in speech and language"

"because the SLT is the expert in the field of speech and language therapy. We're not the experts in this and we need guidance on how best to help the child in this area, otherwise we are a bit at sea really"

"very helpful because I would say at least 50% …that I have had…would have …language or speech would be a problem. So in that context, the more help the better"

"most definitely…I have found from my own experience that I have learned an awful lot from the speech and language personnel…the more we work to enhance each other's work…is to be recommended"

"a lot of the junior infants in particular would come in with significant language delays and we wouldn't know what to do if we didn't have contact with the SLTs on a regular basis"

"over the years we've discovered that parents find it very hard to make appointments…they don't seem to think it's important to take their child to the speech therapist"

"I don't think children can access literacy curriculum unless they have at least a minimum standard of oral language….and some children have

"to help (the children) cope with their setting"	great difficulty developing skills in oral language"
"we've a very big caseload...we've very limited amount of time that we can offer direct therapy...they have far more contact time with their teachers, particularly with resource teachers...so they can actually implement a huge number of our goals as part of their IEPs and they're only delighted to collaborate with us"	"teachers are in a unique position with kids because they see them over along period of time, and for long periods of the day and so they see them formally and informally, and I think that's important…they're in a very good position to talk to the experts helping address the areas of difficulty"
	"an awful lot of the children in the school need SLT and the most effective way for this to happen is for the SLT to give us work to do with kids because the parents have a proven track record of not keeping up visits to the SLT…so most of the work that will happen, the necessary homework and practice will be done in the school"
	"we are only beginning to realise that there is a huge impact of the language poverty across the school in the kids learning and thinking and it impacts on all their subjects…so we know very little compared to the amount that we need to know"
	"because basically underpinning everything we are trying to do in the schools is oral language programmes…the biggest difficulty they have in literacy is their lack of vocabulary and not being able to express themselves or receive language so it's key"
	"so that everybody can attack the problems together"
	"trying to make sure that the school is aware of children who need a service and how they can maximise their uptake"
	"it's very valuable because I suppose language is the key, and the language

	opens all the doors and if you haven't the language coming to primary school you're way behind before you start" "language to me is the key to unlocking the potential of children and it's the only way we are ever going to deal with the huge educational disadvantage"

2. How would you define/describe collaboration?

The themes that were deducted from answers to this question were:

- working together
- phone calls
- joint intervention programme in the child's class
- regular contact and visits to schools
- ease of communication
- having a facility to support exchange of information
- involvement of parents and other relevant personnel
- SLT providing information, advice and a programme to the teacher for a specific child
- mutual respect where both parties share and listen to each other's perspectives
- planning, setting and reviewing goals and programmes together

Answers given by SLTs	Answers given by teachers
" they (teachers) either visit me or I go and visit them and we discuss a programme" "regular contact, regular liaising with other professionals, setting goals in conjunction with other professionals, reviewing them…communicating very easily and very frequently…both parties constantly checking in and updating on information, goals,	"everybody working together for the best outcome of the child in question and trying to see what everyone can do together. Parents, schools, teachers, principals, learning support, SLT, social workers, everybody across the board to try and have a kind of a collaborative, collective approach to get the best for what we can" "it's child based. Children come with

"progress, things like that"

"two people working together with a common goal and setting goals together"

"setting joint goals with teachers rather than working individually and alongside each other"

"it varies a lot…ideally collaboration is coming up with the ideas together, sitting down together, talking about all the issues and coming up with a joint plan…sometimes collaboration can mean I tell her what I'm doing and she tells me what she's doing…I know ideally collaboration is joint planning from the very beginning and joint delivery and joint evaluation"

"it's like a really close working relationship, kind of mutual respect for each other's ideas…and just shared working"

"working together for a common goal….the common goal would be the child's communication and their accessing the curriculum and their overall learning in school and communication in general"

"it can be anything from just a phone call to the teachers completing a form…to sort of collaborating on an actual intervention programme in the classroom…it can be lots of different things"

"can be quite broad, so it can mean anything from talking to a teacher on the phone to actually working together. It can be very hard to pin it down"

"working with another person and to help meet the child's needs

particular needs and the SLT will then provide us with specific work that we can do with them in relation to that particular area"

"I suppose sharing best practice. Two agencies bringing their professional capabilities to the table and putting them out there and seeing what works best in given situations, so kind of meeting of minds I suppose"

"it can be either facilitating a specialist coming into your school and taking a room in the school and maybe working with the children who are not attending their appointments, or it can be…actually coming in and working with the teacher in the class facilitating and helping out with the structure of a language lesson"

"it's working together to support each other to best meet the child's needs"

"it goes beyond being cooperative. It's like a more involved way of being in each other's work…and a facility to meet properly and to exchange information properly and that the resources be there"

"a report from them (SLTs) or a discussion with them about the child's needs…some things I can focus on, or if I can help the children if they actually show me what to do"

"they (SLTs) would obviously give us resource materials and everything, which we wouldn't have access to, specific speech and language materials which are very, very useful…we could phone if we had any queries and vice versa"

"I suppose keeping in touch with one another and letting each other

best"	know what's going on: if people aren't showing up for you, you're kind of thinking what can I do this end?"
"if it's collaboration it has to be a two way thing where we're both listening to each other and taking on each other's opinions and …it's very much working together as a team to try and progress…whatever our goals are for a child"	"I suppose communication first of all, me knowing what the children's problems are, having somebody to explain to me and then maybe getting advice from the SLT as to what I can do to help"
	"trying to be informed by the services that are there that there is somebody working with a particular family…and trying to make sure that the school is aware of children who need a service and how they can maximise their uptake"

3. At present, how do you collaborate with teachers/SLTs?

The themes that were deducted from answers to this question were:

- phone calls
- emails
- visits by the SLT to the school
- teacher observing a SLT session with a particular child
- scheduling face to face meetings
- SLTs providing information talks to school staff
- SLTs posting information and resources and the class/learning support teacher completing these with the child
- working through established school processes, such as incorporating SLT goals into a child's Individual Education Plan (IEP), close links with the learning support/special education team or collaborating through the school's Home-School-Community Liaison teacher
- collaboration varied depending on the situation or case
- no definite policy or system in place this would occur
- mostly determined by the SLT involved

Answers given by SLTs	Answers given by teachers
"I try to get involved in processes that the school already has in place like the IEP process, so rather than setting individual goals, I would try and look at what the goals are on the whole for a child and look at working with the school to achieve them"	"people from the school would have specific posts of responsibility where some people would have direct responsibility for liaising with outside agencies and it would obviously be most particular to people in special education"
"mostly through phone calls and school visits and sending on information, and sending reports to the school and meeting them form time to time and sending them school programmes throughout a child's block or year of therapy"	"if individual SLTs come and work with the class teacher and the class teacher carries the programme on" "the SLT comes into the school…the SLT will talk to us…training day"
"telephone would be the main contact. Email also…face to face contacts, meetings, arranging school visits. Sometimes home school liaison officers will call into the clinic on a regular basis as well"	"through letters and some times I get phone calls…they will ring me and just say what's going on or that they're finished with somebody or that they're on a waiting list…it's kind of fluid, it's not kind of forced, you don't have to remind yourself and it's grand"
"discussing programmes with them, keeping in touch by phone"	"the SLT would explain or show the type of work they are doing with the child and we would take notes and the SLT would leave some tasks for the child to work on and explain how best to do that and so they would obviously give us resource materials and everything…we would phone if we had any queries"
"sit down together, talk about the child, think about what issues are coming up in the classroom…figure out what's the key priority and how are we going to go about meeting that aim"	
"we schedule a specific time to meet…I don't think you can leave it to happen randomly"	"a report on the child (about a SLT assessment)"
"over the phone…school talks, just on general information to a group of teachers on our service and speech and language difficulties"	"well it's a wee bit on the hoof really…you would have a snippet of conversation with her as she's coming in or out…we've had stuff mailed to us"
"depends on the case…some I have an arrangement where I meet with them in the school on a term basis…when we finish a	"there is no set way of working together…sometimes it means the SLT comes over to the school and gives the teacher some programme to work through…I know sometimes the class teacher rings the

report we often go down to the school…because they are often quite detailed and that can help make sure that the staff have a good understanding of the outcome of the assessment of the child. Some times we just liaise over the phone"	SLT"
	"we would have a meeting…you showed us the results of their tests and you identified the areas where they needed support and help….provide a programme of work…backing up, say work"
"I suppose a lot of it is case dependent"	"having direction from the expert…the materials and resources SLTs (are) able to offer, they are way outside the normal remit of what we would have as literacy resources in the classroom"
"holding meetings and having phone calls and sharing relevant information"	
"writing would be one of the ways, and meetings…teachers would come to our clinic to sit in on sessions, to have meetings with us and also we would go and visit them"	"(setting up a) programme in the infants…through meetings and phone calls. I think it was initially set up when the SLT contacted the school"
	"the SLTs have come into our school and given staff presentations…I have personally come over and talked with them and asked for resources, but even that mode of thinking would be new to a lot of teachers…there's no formal structure in place for the collaboration. A lot of it is based on basically human intelligence and goodwill and professionalism but it should be systematic. It shouldn't be based on a wing and a prayer. It should be organised and structured"
	"it comes more from your (SLT) side maybe…coming more to the schools, more phone calls being made, enquiring about different children…and meetings"

4. At present, what kind of things do you collaborate about?

The themes that were deducted from answers to this question were:

- SLTs providing advice, information, resources and discussing programmes with the teacher for a specific child

- trying to incorporate goals into classroom work or a child's IEP
- teachers providing information and insight into how the child is coping in school with the curriculum or any other relevant information
- discussing future needs of the child
- schools being informed of a pupil's poor attendance to SLT appointments
- collaborating on how to facilitate greater attendance

Answers given by SLTs	Answers given by teachers
"(SLT) goals as part of their IEPs…writing and sending programmes…getting children to access our services…we'll use the school and the teachers as a way of making contact with the child"	" we can get quick advice on what to do if we need to send in a form, if we should go somewhere else…we're informed of (assessment findings) and that sometimes you send out packages to us as well and tell us what we can go and do with the kids"
"sharing relevant information about the child's speech and language skills or them giving me information about how the child is doing in their classroom"	"the SLT will provide us with specific work that we can do with (the child)"
"I suppose the things around how they are getting on in school…maybe sharing information on a speech and language therapy point of view as to how they are getting on…and then trying to come up with some joint goals or else maybe trying to give them ideas as to how they can…incorporate the SLT goals into their work"	"giving us a very targeted approach to the oral language programmes we are doing…to actually nail something down, work on something specific"
	"having direction from the expert…and gave the age appropriate materials"
"go through a programme with them…give some guidelines on how to manage a child with particular needs…go through the report…where we've had a referral in from the school and it's just to get clarification on exactly what the referral is for"	"coming in and working with the teacher in the class facilitating and helping out with the structure of a language lesson….showed us the results of their tests and you identified the areas where they needed support and help…provide a programme of work that a resource teacher…could help with"
"teachers would phone maybe about a query they would have…whether to refer a child or not…given advice and ideas of	"the SLT comes over to the school and gives the teacher some programmes to work through" "exchange information"

resources they could use and maybe provide the resources as well"	"really helpful materials and suggestions that they would make"
"we collaborate on the goals for individual children…behavioural problems…IEPs"	"the SLT would explain or show the type of work they are doing with the child…and the SLT would leave some tasks for the child to work on and explain how best to do that and so they would obviously give us resource materials…might specifically ask the therapist what's the best way to deal with that, of trying to improve it"
"when we are doing the IEPs, we would…talk about the child, think about what issues are coming up in the classroom…figure out what's the key priority and how are we going to go about doing that"	
"we discuss a programme"	"letting each other know what's going on"
"the client's difficulties, what resources can be put in place, what teachers can do to facilitate the child's progress with SLT, how we can contribute to the child and provide teachers with information and strategies and with training about speech and language difficulties…discussing progress, requests for further assessments…we also get a lot of information from the schools about certain families"	"mainly around appointments or if individual SLTs come and work with the class teacher and the class teacher carries the programme on…the actual speech assessments and the outcomes of those and securing the proper resources for the children"
	"trying to make sure that the school is aware of children who need a service and how they can maximise their uptake"
"mostly about what we are working on in therapy and about how they can work on that"	
"general management of a child with speech and language difficulties and their educational context so how they can best be supported in the classroom"	

5. **In an ideal world, what other kind of things would you like to share/communicate about/collaborate on?**

The themes that were deducted from answers to this question were:

- more regular contact and more time

- working together more on joint initiatives targeting oral language development for a whole class or school
- receiving information about which pupils are involved with SLT services
- receiving reports about how a child has progressed with SLT
- SLTs reinforcing comments made to parents by teachers
- how to work with multilingual children
- having structures in place to support collaboration such as training about speech and language difficulties and education of each other's roles
- more time to collaborate and communicate with teachers, visit and get involved in schools and work and evaluate together
- talks or videos
- SLTs based in schools

Answers given by SLTs	Answers given by teachers
"if we had more time going into schools, looking at what the child is doing in their classroom"	"in an ideal world I suppose, the more that the groups can work together…if you had a magic wand, you would like more of the services to be school based…obviously the big plus would be that the children who are poor attenders, that you will get them in school"
"a way of maintaining contact over (the school year)"	
"I suppose it's finding the time to be able to do enough school visits and I suppose there are more things that we probably could do if we have the time to spend longer, or group sessions in schools, or joint sessions with teachers, that kind of thing, but we wouldn't have the resources to do it"	"maybe some whole school programmes maybe on language development because there is a huge need I think in this area for that"
	"we have a lot of international children and it's quite an issue for us to know whether to refer them to SLT"
"I suppose the schools are an educational service, we're a health service. Sometimes that can be a real barrier, so…having a chance to have an information sharing session, a chance to sit down and discuss any barriers and any difficulties in working with schools"	"a report maybe of how they did from the beginning and when they're finished and how they progressed"
	"I suppose in an ideal world if you could have more regular (contact)"
"In an ideal world, I suppose if	"the SLT…could help the teacher if the parent has a difficulty maybe accepting certain things…she can

you have the time, you could…get more involved with the school themselves"

"I'd like to have more time to…think about what we are going to do and how we are going to do it, but we don't always have time afterwards to discuss and collaborate about how it went…a debriefing afterwards…reflecting"

"provide more of a school based service as well as a clinic based service, because for a lot of our children…sometimes it's difficult for their parents to bring them into the clinic and maybe to carry out therapy tasks as well"

"I'd probably like to get a bit more involved in IEPs for some of the more complex cases…literacy development or pre-literacy development…I think a lot of the intervention work that we do in clinic for children with social skills difficulties would be much more useful and functional for kids if it was in a school setting"

"I suppose ideally you would have a service from a SLT that might be based in particular schools and would build up good relationships with the teachers and they would know what to expect and they would know more about what the role of the SLT is, and it would be more an approach to I suppose general language learning to entire classes as opposed to just being about specific children"

"I suppose sometimes maybe teachers don't have a full understanding of maybe the role that we have…and I'm sure I don't fully understand what their roles are in the schools…maybe

reinforce what the teacher is saying"

"to get a collaborative model working…the more you know, the better you understand presumably to work collaboratively as you're capable of being…and it be very useful if a therapist knew what a typical class day is like, what it's like to have 25 to 31 children coming to you every day, jamming everything in to the curriculum and also having to have some sort of a sense and awareness and preparation or work for a child who you are supposed to keep remembering"

"sometimes they (the children) arrive and we don't realise there is an issue until months…that we would be made aware that the child has some kind of speech delay and would need help"

"I suppose ideally, and I know a lot of principals will say this, we would like the SLT to be based in the school because a lot of our kids miss the appointments"

"nothing officially really comes (from preschools) to school, so some sort of continuous link"

"I think in pre-service, teachers don't get much training on speech and language and I suppose if we has a clearer idea of what is the normal milestones of language development then it's easier for us to identify when we should be concerned"

"I feel it needs to be thematic and it needs to be a whole school approach from junior infants so that we might be able to obviate the need for speech and language intervention further down the line…The fact that the SLT is in another building and in another service is less than ideal. In an ideal world if we had a SLT in our

information sharing about the kinds of supports we can give each other" "I think I suppose I'd like to have more opportunities to go in and actually work in the classroom" "video footage…to let them actually see us involved in the activities that we're actually describing" "I suppose in an ideal world we would be working more in the schools"	school, we could create fundamental change… at the moment we're like two circles that interconnect at times but not in a fundamental way…the more time spent with teachers will lead to a multiplier effect" "if teachers were shown little videos of SLTs in small group work with children with different language issues and different learning needs, I think we could learn more about what each other does" "ideally it would be great to have a SLT on campus…if that wasn't possible maybe to have somebody that was kind of going round to the schools as a full time job and giving advice to the teachers…maybe a lot of the problems would be alleviated earlier…maybe some kind of in-service for teachers regularly"

6. **What affects the quality/effectiveness of collaboration?**
   a. **What facilitates collaboration?**
   b. **What hinders collaboration?**

The themes that were deducted from answers to this question were:

- available time

- undergraduate and post-graduate training

- differing training backgrounds

- different terminology used

- different governing bodies

- staffing levels

- equal levels of participation from staff members

- professionalism

- enthusiasm

- knowledge and understanding of speech and language difficulties, SLT services and of each other's roles and limitations

- previous collaborative experience

- interpersonal relationships

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- expectations of each other
- attitude
- respect
- flexibility
- personalities
- politics
- location and accommodation for collaboration
- formal structures which support greater timetabling of collaboration
- ethos of the school
- support or competing pressures from management
- goodwill
- openness
- enthusiasm
- understanding of each other's roles and services
- understanding of the nature of disabilities
- meeting in the school setting
- training
- sharing resources
- schools' understanding of speech and language difficulties and the SLT service and its limitations
- shared expectations
- experience of collaborating with other professionals
- child-centred school ethos
- flexible working practices
- equal contributions
- being able to provide resources to teachers
- the value placed on collaboration
- competing pressures of the curriculum
- insufficient funding
- high levels of staff turn-over
- feeling threatened by other agencies
- different governing departments
- dissimilar working hours
- demanding workloads

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- high unrealistic expectations from teachers of what SLT services can provide
- lack of specific policies in relation to collaboration between teachers and SLTs

Answers given by SLTs	Answers given by teachers
"familiarity. Occasionally we would have an experience where a school isn't familiar with our service…and they can be a little defensive with us and also they can be maybe quite demanding of our service…they don't know a huge amount about the limitations or the constraints we're working in" "once you get to know the staff in school, and the school principal and the resource teachers in a school at a personal level, we find that all subsequent collaborations …work extremely well" "very often you find yourself struggling to meet commitments you've made in relation to collaboration that I think time constraints can be a huge pressure" "I suppose one issue you can sometimes come across is that teachers want everything handed to them on a plate, they mightn't be that comfortable with maybe having to go off and find some of the resources themselves…they like to have the resources provided" "time, resources…even in terms of me being able to explain to the teachers the type of work that we do" "policies and practice…a lot of this isn't particularly written into policies yet…so there's something that needs to bridge that gap from policy to practice, because although a lot of people want to collaborate, they don't	"definitely what hinders it is timetables and time constraints…time is a huge issue. I think that time is the major thing" "many people feel a little under skilled in the whole area as well and feeling that they shouldn't be interrupting the SLT department" "your training is vitally important…your expectations of what each other is going to provide…professionalism is a very big part of it too….there has to be an amount of goodwill until there is a formal structure put in place for things to be nailed down more than they are now…there's a lot of politics involved here too…it can't be based on one teacher or one SLT because if they leave the whole thing falls down" "within both professions we're all struggling to work with the resources we have…and ideally children would be given better priority and therefore resources would be there and ideally they would be getting their needs met according to what needs to be done, not by what money is available to do it, and unfortunately it comes down to that often…I don't think there's lack of willingness to do it, it's just lack of opportunity to ensure it happens"

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know how to or they've never had that experience"

"maybe we all need a lot more education and support around [collaboration] than we actually get"

"there's a need for teachers and SLTs to work together more closely and the structures aren't there at the moment…in terms of legislation and practice there's nothing saying that teachers and SLTs should work together so there's no time given to it…there isn't the paper work there…if there was that sort of a system there, that might lead teachers to expect SLTs to be part of the system rather than being surprised when they want to be part of it"

"there's still the idea of the SLT having a magic wand and taking the child away and fixing them"

"I suppose in the school environment itself it can be a little bit hectic in terms of the accommodation that they have to offer. Quite often we do our collaborating in the school hall or in the corridor of in the staff room with people going in and out so there isn't always a setting"

"I think support from the people who are above you. I'm fortunate. My manager is supporting, she sees the role of collaboration as being an important one…and I think in turn I can certainly see principals who are supportive…it all goes so much more smoothly than in other schools that I go into and I've never met the principal…or they're too busy on the phone, for 3 years...so what comes down from the top certainly sends a message"

"because we're employed by department of health and they're department of education, that in itself

"raising awareness that there is help out there. You don't have to do all this entirely on your own all the time, and some children do have difficulties that require an outside intervention"

"there has to be a culture in schools where it is encouraged to be looking at what's happening around us"

"I think in the past, and I mean in the distant past…children came to school and if they had a difficulty, that was them niched for the rest of their life 'oh, they've got a learning disability, give them out work, give them a picture to colour when we're doing this'. I think now we tend to look and say not what they don't know but what they do know and how we can build on that, and I think as long as we maintain that sort of culture and awareness, I think at least we'll be open to things that are happening around us"

"it can't be goodwill because teachers at 2.45, old school, old style teachers drive home. They resent the extra time they spend….but if you were to ask me do I think it's fair that all meetings or all multi-disciplinary work or all school linkages with SLTs should happen after school, they shouldn't. They should be deemed important enough to be paid work…it needs to be paid, timetables, organised time but not at the expense of teacher-pupil or SLT-pupil interaction"

"I think we could kind of learn more about what each other does, but there needs to be…a

creates challenges, even in terms of your working day, your working hours, your holidays"

"I think stability, and I guess it comes from SLT changeover of staff as well…if it's a new therapist, they've got to go from scratch. That's very difficult for them to collaborate with the new person all over again"

"I suppose it's knowledge that people bring to the situation, so depending on past experience…at the moment they are two very different pillars, you've got education and you've got health and there is no real collaboration on a strategic point of view"

"the culture in some schools, there is a culture of being very child-centred and getting people involved as needed for the child whereas other schools you go into they're just extremely busy and they just see you as 'right you can do that for us' … as opposed to seeing it as something that's joint, that you're going to need their involvement in as well"

"time would be big thing then as well…because sometimes it as a very rushed five minutes here or there as opposed to being protected time"

"I think things that would have worked well would have been where maybe there's more kind of general knowledge of what's involved… if we had a shared terminology because language means entirely different things to teachers and SLTs…so maybe when teachers were training they learned a little more about health and speech and language and vice versa, probably it's easy to blame them but maybe we need to be a bit more aware of education and the curriculum and how we can fit our goals in with that, maybe sometimes we're a bit too kind of ambitious and think 'yeah, you

professional openness as opposed to the ivory towers syndrome…nobody needs to feel threatened by sharing what they know"

"time. Time is a huge one and getting time to meet, and to meet constructively and getting time to review…we are all running around the place, speech and language to clients, us back to classes"

"the fact of the SLT coming over to the school and meeting with us here has been hugely helpful and actually getting to know the teachers and vice versa…sharing of resources"

"it's man power, it's hours, it's energy to keep the thing going…constant recharging the batteries, meeting up and seeing that things are actually working"

"time and support from the school system...principal support…I suppose getting information isn't always enough. Maybe there are classes that could be done and getting proper certification if you do"

"as teachers we like to see ourselves as experts, and going to an outside body to admit that we are not the experts in this area"

"sometimes teachers don't realise the actual extent of children's language deficiencies"

"opening the teacher's eyes to the actual specific lack of language that many children have"

"interpersonal

can do all of that, and I'm sure you can fit that in' whereas maybe if we were more aware of the curriculum and the demands facing teachers we'd be a bit more specific in our goals"

"it's very variable. You can work very easily and very well with one individual teacher…and it can be more difficult with another one, just to do with …how open they are, how much understanding, mutual understanding there is between how our service works and how your service works…and just a genuine understanding of the demands on each other's time and service"

"the time constraints around leaving your office and going out to the school and spending a good chunk of time, even though it's very valuable"

"sometimes it's just a tradition. You've got relationships with schools that go back years and they're use to having an involvement and they know how it works and they welcome you"

"even now when you try and arrange a school meeting, the actual time constraints to do that, of getting in touch with a teacher, trying to do that in their break times or lunch times, when you're not in a session, before half two in the afternoon, you know, all of that sort of thing is tricky…it's not easy, you end up leaving these messages 'can you ring me between this time?' and some times teachers if they're very flexible, they end up giving you their mobile numbers so they can actually get to speak to you at some point…I think it does require some flexibility, and you'll get that flexibility where there's that openness and that will for it to happen, and when you've not got that relationship with that teacher, then those meetings might never happen, so it depends"

relationships…the personality input…it very much depends on who is doing it"

"an unwillingness to facilitate … you know, there's a school of thought out there that could be very 'you know, we've enough on our plate'"

"the timetabling of it and depending what else is going on …different priorities or people who would just be prepared to stick to the basics if they felt their curriculum was already overloaded…it depends on your vision for your school and for the good of the child"

"time constraints I suppose…it's messy, it's awkward…sometimes teachers mightn't be keen to take on another programme because there is already a curriculum in place…and it seems like, what is it they say, 'whenever society's got an issue, the schools have to scratch it'….so a teacher is trying to teach A,B,C,D,E and then it's like, well this child has a speech delay, we need to do this as well. It's another chunk of the day gone and with 20 kids, maybe 22 or 23 in a class, it's just not possible for a teacher to give the time to a child…it's back to resources I suppose but the curriculum is already very, very overloaded…and they can't be missing things out just to stick in another bit that's not on the curriculum, however valuable it may be"

"I suppose teachers traditionally have gone into their classrooms and closed the door and been completely autonomous, and some people, especially people

"having a knowledge of what both parties do…time constraints as well would be a big thing…often we would be trying to phone schools that I might pick a time in between sessions and you'd phone and leave a message, but obviously the teacher is in class then, and they might ring you at 2 or quarter past 2 and then you might have someone in, so that can be difficult to get people, and you find that you play phone-tag with people a lot"

"the principal having an understanding as well. It's not just the teacher… allowing the class teacher out to speak to us has been a difficulty in certain instances so maybe the principal who is really in charge of who comes in and out of the school and how that works"

"I suppose service constraints as well…when you are a busy therapist and…you are trying to offer as many appointments as possible, collaboration may fall a little bit down on the list…it can be difficult just to find that time…to follow up on school programme, make sure you get a visit done, meet with the teacher"

"I suppose the amount of time both people can give to it and I suppose it's important that people kind of buy into being collaborative as well…respecting other's opinions and I suppose getting on with the person as well, you know some personalities kind of go better together than others…somebody who has ideas to bring to the table. That it's not just about you imparting all this information, it has to be give and take…someone who is just open to suggestions…feels that what they are doing is actually worthwhile…attitude"

"the time available, the amount of value both parties put on the

who have been in the system a long time, would find that very, very difficult, that somebody might be coming in and saying this is what you need to do to help this child. They might think 'I know what to do. I've been doing this for 25 years'. I don't think we have that here specifically and I think a lot of young teachers would be open to help and ideas but I could imagine how, you know, different teachers, and more senior teachers might possibly say 'I haven't got time to this. I'm not doing this'"

"there isn't really enough time to make sure there's an integrated kind of approach with the class teacher….we just don't have the know-how and I'd say teachers would probably argue 'we don't really have the time'…there is a bit of an unrealistic thing about teachers being available…time and accommodation are always going to be issues"

"arguably personalities could get in the way and it also depends on the school's whole attitude, just how open and responsive and encouraging they are of other agencies being involved…maybe ignorance and embarrassment of not knowing enough…and therefore not wanting to enter into a working relationship with someone because you feel out of your depth, you're not trained in this or you haven't done it before, or what's going to be expected of me if I do"

"openness. It's like maybe you're an expert in your field and hopefully I'm an expert in

collaboration, the mutual professional respect…a good working relationship…if you haven't clearly set the boundaries, if you haven't clearly laid down what you expect and allow the other person to set down what they expect and reach some sort of agreement"

"experience of collaboration in the past"

"I think probably you need a principal of a school who is interested, and interested in collaborating and sees your role. I think if they feel threatened in any way, then the collaboration probably won't work"

"you need the enthusiasm of the teacher involved and again you'll find that there are certain schools where the collaboration is very good and I think that has to do with the principal and the teacher"

"trying to contact class teachers can be so difficult. They are in class teaching and their time is very limited as to how much time they actually have to take a phone call, getting back to you, things like that. And also I think knowledge about SLT and awareness of our role and understanding of our role"

"we are all coming and trying to work towards the client's good, but in essence we are different services and we have our own limitations in what we can provide"

"finding times that are good for communication with each other…they're all gone home when we might have time to make a phone call at the end of our day. They are already finished their day, and our lunch times wouldn't correspond with their lunchtimes"

my field but it doesn't mean that you mightn't have a better suggestion for me as regards my area or that I mightn't have for you…openness and willingness to learn I suppose"

"obviously the personalities involved…it's easier when you know the therapist"

"maybe coming from different trainings"

"the atmosphere within the school and the openness of schools to let SLTs come in, because I'm sure that can vary from one school to another"

"if we're all interested in the kids…people being really involved with the kids…for that not to be an issue you kind of need to have procedures in place"

"time is the biggest thing…apart from time, I suppose knowing who to go to and where to go for help"

"there tends to be ignorance with staff sometimes…people here would be frustrated by…high turn-over (of staff)"

"different views and lack of understanding" "I think time is one of the main things because if you are just running into a school and throwing paper work at a teacher who is already overburdened then you make it really hard for her or him to take that on, but if you got the time, you build up a relationship, you know how each other work, then I think that makes a big difference…rather than just being somebody who's there for a short length of time and nobody gets to know you. If you've come part of the school structure then it really helps" "I know from working in Scotland that there would be allocated teacher time to collaborate with those professionals whereas there isn't in Ireland …so it's much harder asking a teacher to leave a classroom for the children when she doesn't have cover"	

7. When is collaboration not required?

The themes that were deducted from answers to this question were:
- never a time when collaboration was not required
- collaboration would not always be essential but would always have some benefit
- not required if parents are managing the difficulty successfully at home
- if the difficulty is not severe
- when the collaboration is not purposeful
- if a teacher had previous experience of a similar speech or language difficulty
- if there are resources in the school to work with the child on that difficulty

Answers given by SLTs	Answers given by teachers
"I can't think if it would ever not be required	"I think there are times when it mightn't be essential but I think it will always be of benefit"
"I actually don't think it's never not required"	"if it's working well at a parent level…then I don't think there's a need"
"I think if things are going smoothly"	"I'd say it would always be a good idea"
"I suppose maybe when the goals have been set and people are working away on them…you don't need to review it like overkill…you don't want to have too many [meetings] because when are you supposed to carry out the goals or aims"	"it could be a milder form of disability that the child has…less severe…we may be able to work quite well without collaborating"
"I think there's always a need"	"I can't see how you can do it without some, and I think the more effective work is done, is because it's done collaboratively"
"if you have a really good family, who…take on the work and you can show them what to do and you know they are doing it…then it's not as vital to get schools involved or very mild speech and language difficulties…that you can manage quite easily with the family and the SLT"	"I don't think you can work in a vacuum…you need to work with all the different agencies"

"if teachers have worked through the little scheme, that teacher, the next time will be able to sort of forge ahead herself" |
| "I think collaboration is very necessary" | "I think within school systems, teachers collaborate with each other…the internal agencies of the school can often come up with the solution to the difficulty you might have in class. It's not always necessary to have an outside agency" |
| "there may be some issues that a child can have that their parents can happily address and I don't think we should be using extra resources when they're not required" | "I don't see a time when it wouldn't to be honest"

"I don't really…collaboration is very rarely the wrong way to go"

"I think collaboration can only be seen as a good thing…I think collaboration for collaboration's sake is really a waste of time" |

8. What are the advantages of collaborating with SLTs/teachers?

The themes that were deducted from answers to this question were:

- professional development and new learning
- increased awareness of each other's roles and improved working relationships
- teachers having a better understanding of communication difficulties
- making a SLT's job more interesting and rewarding
- obtaining a fuller, more holistic view of the child from the teacher and the impact their difficulty is having on the school work
- targeting SLT intervention more towards helping a child access the curriculum
- increased cooperation from a child with a teacher than with a SLT
- better outcomes for the child and sometimes faster progress
- having a forum to discuss concerns about a child
- receiving support, advice, guidance and innovative approaches to working on a child's communication difficulty
- increasing teacher's understanding of the importance of language development to literacy development
- better outcomes for the pupil
- professional development
- fostering energy to tackle a difficulty
- job satisfaction

Answers given by SLTs	Answers given by teachers
"we learn a huge amount from it…it makes work more interesting…it makes work very rewarding…there's a lot of job satisfaction coming from it"	"you're more likely to try something else"
"[children] may not have the same attitude to a therapist as they would have to a teacher…and sometimes they cooperate really well for a teacher…and some teachers are pretty strict so they actually can be quite successful at working on tasks	"ensures that somebody knows that they're going on the right road…and you get that positive reinforcement…it often brings up…new thoughts" "being able to get advice…having somewhere to go and ask about things"

that we want worked on…we get excellent outcomes from teachers without us having to put all the donkey work into it"

"sometimes when we do a speech and language assessment, it's quite an isolated snapshot, but it's not until you get the input from other people that you start to make it real for the child…it makes it more holistic"

"I know personally, I have learned a lot from working with experienced teachers"

"I think the child gets a much better service…everybody who is in the child's environment involved so that it's going to be a better outcome for the child"

"for the professionals involved to learn a bit more about each other's roles and get a better idea of what's happening in the different settings"

"a more of a holistic approach to the child...we're just seeing a little snippet of them"

"a better shared understanding of the demands that each party is under….common goals of making the life of the child better"

"our own learning…what we need to be gearing therapy towards in some instances"

"benefits to the client group in terms of the kind of therapy they are receiving. It's more holistic I suppose…you have a much better idea of where the child is at…it's better for the children definitely"

"it's really beneficial for the therapist and the teacher, you learn so much from the other person in terms of your own knowledge base…taking

"it opens our mind to what other people are doing and the possibilities out there. It opens our mind to change"

"you are bringing your expertise to the table around targeting specific things…we are more used to dealing with larger groups and managing that sort of classroom situation"

"that you're able to bring problems to the table, you're able to discuss specific cases or specific groups…it keeps an impetus on the programme…and you also feel there's a back up there for you if you are floundering…that you have the expertise coming back into the school, to bounce things off"

"getting expert advice as to how to deal with the concern that you might have"

"the satisfaction of dealing with the situation well"

"as far as collaboration goes, we'd be putting a flag outside to say 'collaborate! collaborate! collaborate!'. It's been hugely beneficial to the school in setting up different things that we're doing and keeping them going…the ongoing support is the thing…it's just been hugely positive"

"the skills flow over and back…you're learning from them…I think it demystifies the whole area of speech therapist"

"we change the way we think about literacy to put the emphasis on language…there is a substantial difference between the children in a middle class area and

on board more of the academic stuff"	their ability to vocalise and to verbalise and it affects the development of the very person"
"you can learn a lot from [teachers]"	"you hope that the child is going to achieve more out of the system…and I think for teachers as well, it's professional up-skilling"
"it's hugely advantageous to the child because you get two people working together…the child gets a much more holistic and a more rounded service"	
"more awareness of what goes on in schools and how they are trying to fit what we're trying to do with them into their school work"	"you have gained something from your contact with that person for helping the child…child's whole development is furthered by your efforts"
"I think what the collaboration does is that it allows teachers to become much more aware of how language disorder can present itself"	"more knowledge in general…advantages to the child, that there are two people working on the one track"
"the overall advantage would be the welfare of the client is improved. Benefit to the client, fostering working relationships…it improves SLT knowledge of schools and the workings of schools…teacher's knowledge of SLT and our role and how the service works"	"we learn so much really, and the child benefits"
	"I think the child benefits. I think you see the outcome in greater progress with the pupil…there's a learning process as well for both the teacher and the SLT working together"
"it helps carryover from therapy. If the child is working on things in the clinic room, in the class room, in the learning support room, and at home, it's more likely that what you are teaching them in therapy will transfer into everyday life"	"I would definitely learn from it…we can help each other"
"if you are collaborating with a teacher, they can be carrying on your work"	
"you are building up professionally your own skills, seeing how other people are working with the child"	

9. What are the disadvantages to collaboration?

The themes that were deducted from answers to this question were:

- upsetting the routine of a class
- worrying parents by having other professionals involved
- SLTs pushing a course of action that the school disagreed with
- time consuming
- increasing the SLT's workload
- placing extra demands on the service
- stress inducing if doesn't run smoothly

Answers given by SLTs	Answers given by teachers
"it does take more time to do"	"I don't see any"
"it's time-consuming…you can end up with a lot of referrals and they take it a step too far and think they should refer everybody"	"I can't really foresee any disadvantages"
	"I wouldn't say there any disadvantages"
"increased work loads"	"I don't think there's any"
"none spring to mind"	"I can't think of any really…it's a win-win situation"
"you've to work more time into your schedule…it's more time consuming"	"I don't think there are any"
	"no I don't think so"
"I don't think there's disadvantages to collaboration"	"the only one I would see where it was upsetting the routine of the class"
"it's time-consuming. If it's not working well it can be quite stressful"	
	"parents sometimes are anxious if there are other professionals brought in to intervene"
"I don't think so really"	
"I don't think there any disadvantages to collaboration at all"	"not form where we're standing. I really don't see any disadvantages"
	"unless a therapist was trying to push a particular course of action onto a staff that they want"
"I don't think there are disadvantages to the idea of collaboration"	

	"I don't see any disadvantages to it all"

10. Do you currently have access to a computer in work? For what purposes?

The themes that were deducted from answers to this question were:

- communication with school staff and families
- email and internet access
- school administration
- database and web hosting
- information seeking
- educational software use
- preparing teaching materials
- processing reports and letters
- preparing programmes for clients
- accessing client database and resources

Answers given by SLTs	Answers given by teachers
"for putting together reports, for statistics, for putting together programmes"	"communication with staff, communication with parents, school planning, school information, school reporting…school curriculum updating...accessing and reviewing software"
"typing reports and we have a database, and for emailing and sharing information"	
	"email, communication, website, school website"
"typing reports, typing letters, appointments, making resources, printing out materials from different websites, internet"	"I use it for administration"
	"software"
"word processing, spread sheets, email, accessing the internet, databases"	"I would use it for my own records, doing my planning…do little bits of research"
"our own internal department database…typing reports and letters and those sort of administrative things"	"just for administrative work"
	"word processing"
"I mainly use it for accessing emails, for looking up	"we would use it a lot for setting up templates…setting up programmes,

resources…writing reports and making up school programmes and home programmes for children…database as well"	school policies…keeping records"
"email, word, excel spreadsheets, powerpoint"	"preparing materials for teachers, for accessing the internet, for emailing…hold all my reports and evaluations and reviews"
"Microsoft word…general admin"	"I would use it a lot for my own administrative purposes"
"typing reports…put worksheets together for homework…different CD roms…email communication…taking minutes of meetings"	"software programmes" "all the workings of the school, all the school plans, all the policies…a database of all the pupils
"mostly for email and for report writing"	

11. What are the barriers to using a computer?

The themes that were deducted from answers to this question were:

- time constraints
- lack of IT skills and knowledge, especially amongst older staff members
- technical faults
- broadband difficulties in the school
- cost and obtaining funding to meet the cost
- maintenance
- lack of interest in technology
- a perception that it is quicker to write things than use a computer

Answers given by SLTs	Answers given by teachers
"lack of expertise"	"the only barrier that arise from time to time is the broadband in the school…the broadband is down for a week and that can be an issue"
"technology lets you down"	
"my own ignorance and time"	
"time"	"cost. Maintenance…where there is an in-built fear [of computers]…just a lack of familiarity with [computers]"
"my skills, computer skills. Technical stuff"	

	"computer skills. I've done the courses. It's just about really finding time to sit down and work through them enough that I feel comfortable whereas it's so laborious for me at the moment, it's actually quicker for me to take out pen and paper"
"if you don't fully have all the skills necessary" "I suppose if you were somebody that didn't have good computer knowledge"	
	"I had no interest"
	"the time constraints"
	"by the time you get it up and running and you get yourself organised, the time is gone…some of it could be my age, my generation"
	"sometimes our broadband is down. The [aerial] blows down"
	"some of the older teachers wouldn't be totally confident…there isn't funding for it"
	"ignorance"
	"support to either update or add on"

12. **Have you ever seen/used a web portal? A web portal is "a secure intranet system specifically designed and customised for the special needs of a designated group of people". For example: Yahoo!/IASLT website/Scoilnet/HSE intranet/ Dept of Education portal etc.**

Seven SLTs (58%) and eleven teachers (92%) had seen/used a web portal.

13. **If there was a specific secure web portal available for SLTs and teachers that you could log on securely to see details of clients, when they were referred, when their appointments were, what the outcome of assessments were, links to resources, and a way of messaging and teachers sharing classroom perspectives - do you think it would be an effective way of collaborating?**

Eleven SLTs (92%) and twelve teachers (100%) thought a web portal could

be an effective way of collaborating with each other. One SLT deemed it

may not be an effective way of collaborating because of her concerns about parental consent and obligations under the Freedom of Information and Data Protection Acts.

14. What else do you think a web portal between SLTs and teachers should include?

The themes that were deducted from answers to this question were:

- basic information about SLT in general, the SLT service and SLT related diagnoses
- practical information about school opening hours, holidays, staff members
- discussion forums
- online checklists for teachers to help identify if a child needs to be referred to SLT service
- a facility to collaborate with wider educational staff such as educational psychologists
- links to community services available
- a template for IEP planning
- a capability to receive feedback from teachers
- lists of pupils who did not attend SLT appointments
- reminders of appointments
- links and interfaces to other relevant services and agencies
- indications if a child was accessing other services
- sharing impressions of the child/family
- relevant school records (e.g. attendance)
- access to resources
- links to research articles
- video clips of therapeutic interventions

Answers given by SLTs	Answers given by teachers
"discussion forums, so for example if a teacher had a concern about a child and wondered whether to refer them or not"	"lists of non-attendance…references to other agencies that the child might be accessing…so that you could see that there are other issues, if there's

"maybe include the whole educational staff so also include psychology, like NEPS…maybe some sort of form that allowed for joint IEP planning"	a home school liaison officer, if there's an attendance problem…all that information would be linked up"
"I suppose even at a basic level, the role of teachers, the role of SLTs, all that basic information"	"an interface between other cognitive professionals such as educational psychologists, occupational therapists and teachers…so there's scope for…further multi-disciplinary aspect"
"information about specific diagnoses…something maybe like where they could put in queries and somebody could get back to them"	"whether the children are actually following [the appointments]…sharing impressions of things as well"
"advice sheets, guidelines for teachers…a recap of our service and what we do"	"what opening hours, addresses, phone numbers…maybe some short video clips"
"feedback from the teacher, what they found helpful, what worked really well, what they'd like more of, what they didn't think was very useful"	"it should have as much information as possible in terms of resources and what can be done"
"basic things like school timetables…what time are their breaks, what are their hours, when are their in-service days and when are the school holidays and who is the best person to contact for what…and similarly then for [SLT] clinics"	"it might kick out reminders…beep, beep, so and so has to go to [SLT] and she hasn't attended for the last two"
"on-line questionnaires for things…maybe a language screening…if they had concerns about a kids and wanted to try screening them before making a referral"	"up to date research …if there was something significant that was earth shattering or if it was something new that ought to be documented"
"maybe information in relation to other services in the community like parenting courses"	"I wouldn't like to see much more really"
"I guess some information, not necessarily about the child, but what SLT is about as well"	

15. What do you think the advantages would be?

The themes that were deducted from answers to this question were:

- saving time
- easier and quicker access to information and resources that could benefit the child
- obtaining advice
- adding to professional development
- enabling a more holistic view of the child
- increasing collaboration
- easier and more convenient access to ongoing communication with teachers in contrast to missed phone contact
- facilitating working from home
- having a written record of collaborative attempts
- providing accessible reliable information which could support teachers and increase their understanding of speech and language difficulties
- sharing information
- savings in travel expenses and in terms of less paper wasted
- putting a structure on the collaborative process
- potential to foster greater links and positive relationships in an innovative way

Answers given by SLTs	Answers given by teachers
"something they can go to and they know I's going to be there, instead of trying to ring and they can't get through"	"it would be a way of getting advice"
"if the information is consistently there as well, being reliable and computerised"	"it's good time management" "links to resources would be the most interesting"
"it would cut down on the time taken to drive out to these places [schools]"	"you could get piles of information" "you'd have all the information there in front of you"
"that would really remove…the time waiting for phone calls, replying to phone calls, getting back to people. Teachers could log	"to actually have information like that at the click of a button…I think that would save a lot of time

on at a break or when they have a minute. We could log on when we have an appropriate time"

"I think it would be very, very useful and I think teachers would be interested in it as well…we're always looking for new ideas and new ways of doing things"

"it might cut down on waste paper I think. Sometimes you can go out to a school and photocopy a whole pack of stuff and it could end up in somebody's drawer and never even get looked at…if it's on a system that they can take down whatever they want….in terms of paper and carbon footprints and all that it would be good"

"it would be great to have any sort of constant communication"

"keeping in touch with teachers when you are not there. It would be much quicker than having a visit with school"

"I think a lot of teachers in schools feel really lost and left on their own, like they don't know who to contact, so even having a system that allows them to find out who the SLT for their area is, how you would meet with them, then they may feel more part of a supported system, rather than being left on their own with a child presenting with significant difficulties"

"I like the idea of sharing resources and sharing information around different sorts of difficulties that kids experience in school"

"if people want to work from home or whatever it makes it easier for them to do it because it's internet based"

and energy"

"it would be very helpful for the school…to see what kinds of things we could set up for the children"

"it just gives you an overall picture of the child… at your finger tips. I suppose at the moment, you have your notes and your reports, and the notes are in one book and the reports are in the filing cabinet…so it would be all in one place"

"save a lot of meeting time and people answering phone calls. We would probably be more efficient with they way we operate within the school"

"from the perspective of time. There is not wasted time…there is an immediacy about getting information… in terms of transfer of information, it's huge…it's the ultimate in terms of sharing information"

"it would enable teachers to up-skill themselves

"facts at your fingertips and it cuts out all the wondering or the ringing around…it would be less easy for people to clip through the hoop that need to be seen"

"you would see immediately if there was anything you could be incorporating…into lessons"

"24 hour access is fantastic…when I'm free I can access the information that is there"

"if teachers were able to check the 3 or 4 children in their class who were going to speech therapy they would be able to follow it up more consistently"

"nice to have a kind of organised link, so acknowledging the link between the two areas of school and SLT and just saying that we are two disciplines that are obviously associated and therefore we have this joint forum, that it makes sense for us because we know each other and we need to know each other. I think that would in itself encourage positive relationships"

"they would have access to [information] without having to wait for us to get back to them"

"it would be easier access for the teachers, to access information about children that they may have referred"

"improved communication in general. We could message each other instead of trying to leave phone messages for each other"

" I think it would be a very good way to impart that information"

"a system like that…wouldn't be kind of dependent on catching them on the phone, it wouldn't have to be real time"

"it might be a little bit more user friendly for therapists, in terms of their time"

"very beneficial seeing things in writing"

"I think it would be more time effective than other things"

"it means you'll actually get hold of a teacher when you want to make a communication so if you've got some time you can go ahead and do it and it doesn't depend on trying to get hold, especially with teachers because you're disrupting

"if it furthered communication there's a greater possibility of the effort being more collaborative"

"you may have an awful lot of information immediately available that might otherwise take quite a long time to build up"

"you'd have the links to resources which would be very helpful…you would have quicker access if you could just download them"

"very instant rather than waiting"

"very, very quick, hands-on way to access information…and also instead of trying to remember where is such and such a page or such and such a record was put, which often happened, you can readily look back and see the pattern of whatever"

Answers given by SLTs	Answers given by teachers
classrooms, they often don't answer the phone in the school and so on"

"giving more structure to that relationship [SLT and teacher]" | |

16. Is there anything that could be a barrier to its use?

The themes that were deducted from answers to this question were:

- concerns around security and confidentiality
- lack of IT skills and knowledge
- fear of putting sensitive information in writing
- lack of access to computers
- insufficient funding for IT
- computer functioning and cost of computer maintenance
- obtaining parental consent
- not feeling this is would be part of job specification and hence unwilling to use it
- cost
- lack of training in how to use the web portal
- user-friendly
- resistance to change

Answers given by SLTs	Answers given by teachers
"the only issue I can see around it is data protection and…parental consent"

"I would have issues around consent and freedom of information"

"it would require that people would first look and want to know"

"issues around confidentiality"

"the whole security thing is a big thing" | "confidentiality"

"the school would need to monitor who was using it"

"you would have to be careful as to how you use the information…some sort of agreement that the information you have is confidential"

"if teachers aren't au fait with computers…not everyone is a whizz on the computer…some people are terrified of computers and a lot of them would hate to try |

"I can imagine that a school with maybe a hundred teachers and a very limited number of computers that they have access to, then it might be harder for them"

"I think lack of IT skills. For example, some teachers who might be in the profession a number of years may not use to using computers and they find it quite a foreign thing to do and they might not like it"

"you would have to have people buying in from both sides"

"confidential information. You have to be very careful about who is using it and who is accessing it"

"they'd tell you things face to face they wouldn't be feeding back on if…there was a computer record…something that they notice that they might say to you but they wouldn't write it down"

"there'd have to be some training"

"maybe in schools they mightn't all have access and maybe it might be an issue if there was only one computer between all the teachers, that they wouldn't get a chance to get onto it outside the classroom time"

"probably time for teachers. A lot of them seem to, I don't know if I'd be popular saying that, but seem to need to leave immediately when school finishes so for them they might say 'well we don't have time to log onto this resource'. They might see it as an extra piece of work, that we've got to do this and talk to SLT now, it's another burden"

"I suppose the security of the

and use them in the classroom. They wouldn't know where to start"

"if your computer goes down and you can't use it"

"more funding needs to be provided for schools…so if that was to work correctly and to its full potential proper funding would have to come into play in schools for IT…I think that would need to be looked at first of all to make sure that would work"

"I wouldn't be as computer friendly"

"the only thing I'd be worried about, information about children being up there"

"security…I don't know if it was my child whether I'd be comfortable"

"security in a nut shell is the word"

"the confidentiality piece. I don't know how you'd fix that"

"fear, I think, older people haven't grown up in a technological ages and just they fear buttons and lack of skill"

"lack of access of internet within the school"

"the main thing would be that it's secure, that that sort of information wasn't going out into the airwaves"

"parental permission"

"I suppose in terms of the materials that's put up, safeguarding the individuals"

"parental clearance"

site…I don't know who would fund it, it would be an issue as well….you know health and education still haven't thrashed out their differences"

"if you're not as equipped with computer skills, depending on your generation I suppose, you know, it might kind of frighten some people"

"computer skills…fear of confidentiality"

"cost might be a barrier, setting it up and maintaining it, organising passwords, all that sort of cost element"

"easy access to the computer and skills as well"

"it would have to be quite user-friendly in order to be attractive for people"

"getting people to sign up to it and use it"

"maybe not everybody would be keen on the idea and I suppose you would have to have everyone on board if it was going to take off properly"

"people who aren't computer literate…might be difficult for them"

"you'd just wonder how secure are these things"

"schools aren't always IT-friendly…the problem with that kind of IT system is that obviously it is highly IT-dependent and if something happens to the computers and they break, people don't have access. This isn't private industry and there's no funding to keep the technical support"

"young teachers…don't know what's appropriate and what's not appropriate to write down…they might say the wrong thing"

"people who are particularly involved in the union would definitely object to that. They would say 'that's not part of my job spec'…some teachers might say 'I'm not doing that' and they'd be perfectly within their rights actually…it's not what you're employed to do"

"other people mightn't…consider it as important, might consider that they have enough to be doing without doing this as well. It's a question of willingness to buy into the idea of it"

"poor teachers or bad teachers will not go with that"

"I think there's always a fear of IT…it's a bit silly really in a way, there seems to be less fear with something that can be put away in a filing cabinet than something that can be on a computer…people feel if it's in hard back you can sort of control who looks at it"

17. What would be the disadvantages of its use?

The themes that were deducted from answers to this question were:

- fear that the collaboration may become very impersonal and not as effective as face-to-face contact
- extra work burden
- a potential that there would be less SLT therapeutic interventions in the school
- loss of a paper record
- extra time required to respond to teachers' messages and update the web portal and ensure information is accurate
- need for technical support to maintain it
- a risk that teachers may not refer a child for a full SLT assessment but instead work with the child with available resources
- concern that teachers mightn't share the same depth of information in this written format as they would face to face

Answers given by SLTs	Answers given by teachers
"you'd have to dedicate time to actually reading messages and responding…you might need to have less contact time with the children"	"there are gaps you'd have to close…the personal contact"
"it could become very impersonal"	"they say 90% of communication is non-verbal I think so I think writing it down isn't always the best way…it can be taken out of context"
"it would have to be maintained"	
"I guess for me the whole concept of collaboration is around sitting down, face to face…and in some way having it on a computerised version, just for me anyway, probably my old fashioned way of thinking, probably takes away from that"	"the likes of you may never be in our school"
	"adding to the burden of work"
	"maybe the paper trail…in case there was trouble down the road and somebody did bring a case saying their child wasn't dealt with…I'd be maybe a little concerned about electronic paper trail"
"if you're looking at a screen it's not the same concept that I would have [of collaboration]"	
"I'd be afraid that they might decide not to refer"	
"although it's [computer] supposed to	

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save time, can take up a lot of time if things aren't working the way they are supposed to be" "how do you monitor what goes up and ensure that the recommendations that are there are right" "if you put something on 'how to work with speech difficulties' and then a teacher thinks 'oh, I've a child like that. I'll just use that approach', whereas obviously we train for four years as SLTs is because you need to match things very specifically to a child and that you can't just pick a programme off the shelf and apply it" "if it's another database, another administrative load" "who would be responsible for maintaining the information on it, because…it would take a lot of time for that person to do, even gather the stuff about roles of SLTs" "it might reduce the personal contact with teachers substantially which would then impact on how we would collaborate with teachers…after trying so hard to establish our profession and to make those links, we don't really want to break those" "it might take a little bit away from that face to face" "well it's not face to face and you can't have a sort of dynamic discussion because it's the written word and there could be a delay in response and it's hard to discuss something right through…you don't know for sure that somebody has understood you. I think you get a better idea when you're face to face" "time constraints in their school day" "they'd tell you things face to face they	

wouldn't be feeding back on if…there was a computer record" "our work is so interpersonal that it's a key piece I think meeting up with somebody and discussing the issues face to face" "pre-conceived ideas about things, how they were always done in the past, never had to use this, we do have to use this now" "sometimes it's the time in the staff room when you're sitting having a chat that a lot of stuff gets done and you build those relationships so maybe that would be missed out on if you do more online"	

18. Would other methods of communication still be necessary?

All teachers and SLTs (100%) indicated that they felt other methods of communication would still be necessary.

The themes that were deducted from answers to this question were:
- phone contact
- belief that collaboration is most suited to face-to-face methods of communication
- the perceived benefit of meeting somebody face to face and putting a face to a name
- the possibility of meeting face to face breaking down any potential barriers to collaboration
- an opinion that people would not be comfortable putting certain pieces of information in writing
- a feeling that a web portal's function would be best served by being an enhancement of existing practices of school visits and phone calls

Answers given by SLTs	Answers given by teachers
"I guess for me, the whole concept	"nothing beats meeting somebody,

of collaboration is sitting down, face to face with somebody and in some way having it on a computerised version, probably my old fashioned way of thinking, just for me anyway, probably takes away from that"

"I don't think you'd ever stop people ringing people…I don't know if it would replace…meetings that you have. It might be class teacher, resource teacher, SNA, principal maybe and parent. That's a collaboration that can't be replaced by an email really"

"I suppose that we, as therapists, would still make the time to make a school visit and still be visible in schools too so they didn't think that we were leaving it all up to the web"

"you can't really replace going out to a school and collaborating with somebody"

"they would ask questions person to person that they wouldn't maybe put down in writing, or they'd tell you things face to face they wouldn't be feeding back on if there was a computer record…also our work is so interpersonal that it's a key piece, I think, meeting up with somebody and discussing the issues face to face"

"after trying so hard to establish our profession and to make those links, we don't want to really break those, so just to be aware of that and to try and still to have contact and to physically go into the schools as well"

"I think people still want to actually have face to face contact or telephone"

putting a face, putting a name…I see it in school here myself with messages, with emails to people, with notes, it's just nothing beats making a few minutes and telling somebody something"

"it's great to be able to lift the phone and talk to somebody…I think that's still important that it would be in place"

"I think the [web portal] would enhance the school visits and the phone calls. It would only be an enhancement"

"I think the personal contact is always the very best"

"there are gaps you'd have to close, and the personal contact as well…that's only information on the screen to you there, but there's so much more there would be from contact with people's body language, tone of voice, just interpersonal communication that goes on"

"I would still like the phone to be there as well"

"yes. It's nice to have the sort of, because you know who you are talking to then…you've made the personal connection. We don't want to get totally cyberised in this"

"you can't beat face to face"

"well, the old face-to-face or the telephone call. You can't beat that, sure you can't? Developing a relationship with the people you are dealing with, you put a face behind the voice on the phone. There is a lot to be said for that"

"you'll always have meetings

"I think you still need to be at the end of a phone line because some times those contacts are really important…sometimes it's the time in the staff room when you're sitting down having a chat that a lot of stuff gets done and you build those relationships" "I think at the moment in Ireland we are not advanced enough to be able to give up everything else. We still like to talk face to face…and we still need face to face meetings because you can read about something, you can ask somebody about something but sometimes you still need to see somebody face to face" "you'd want to make sure that there was some personal contact"	because you get more from meetings and people will say things that they won't write down, and that's life…they say 90% of communication is non-verbal I think, so I think writing it down isn't always the best way. You see how people get annoyed over emails and text messages and all these things because they really can't see the meaning behind what's written down or it can be so taken out of context"

19. What additional support would be needed?

The themes that were deducted from answers to this question were:
- developing IT skills
- training in how to use the web portal
- monitoring who was using the web portal from the school
- specified policies in appropriate use of the web portal
- including parents in dialogues that are happening via a web portal
- funding for IT
- consultation from an expert in data protection
- technical maintenance of the web portal
- professional monitoring of the content
- having a specified person to contact in relation to queries or concerns about the web portal
- evaluating the web portal
- additional support would not be needed.

Answers given by SLTs	Answers given by teachers
"I suppose you would need training initially. I suppose we are all coming at it with different levels of technology knowledge and you have some people who are still terrified of computers…I suppose different people would need different amounts of training	"the school would need to monitor as to who was using it…I suppose the school would set up conditions for that"
"you'd have to get an expert in the field [of data protection] to look at it"	"parents need to be part of the loop so how do you include them as well"
"if it was well designed I'm sure I'd be able to use it easy enough"	"maybe a manual and that type of thing"
"maintenance of the site"	"I had a block about computers"
"professional support as well to make sure that the information that's there is appropriate and that it's going to be used in the right way and possible customer feedback as well to ensure that it is actually doing the job that is intended"	"quick training to know what to do"

"some kind of introduction in how to use it. It depends on how competent people are in ICT" |
"maintaining the secure aspect of the site"	"if there was a stock lesson"
"technical support to keep it going. Obviously faults can happen"	" I don't think so. I'm at the lower end of the scale of the school in using all of this kind of stuff and there's always people to call onto to give a hand"
"training definitely both in the education setting and the SLT setting"	
"there are teachers who don't use computers and SLTs as well"	"some kind of induction"
"making sure somebody is watching it to make sure that people aren't putting content on it that's not appropriate or relevant"	"schools need…more funding…funding would have to come into play in schools for IT"
"maintenance of the site, technical support…IT support"	
"training around using it	
"training for people in how to use it, giving them feedback mechanisms of how they're finding it...making sure that you're evaluating how useful it is"	

"some kind of a training situation and then ongoing support…and then some kind of a review of how it was going for people…evaluating it, reviewing it down the line" "training…education" "maybe that on a team that one SLT could act as a link" "technical support"	

20. Any other comments to make?

There were many additional comments, but all were relevant to previous questions and hence, they have been inserted in the appropriate sections.