

**THE WORK PLACE EXPERIENCES OF INDIVIDUALS WITH CEREBRAL
PALSY WHO HAVE COMMUNICATION DIFFICULTIES AND THEIR
COLLEAGUES**

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MASTER OF COMMUNICATION PATHOLOGY
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BY

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Declaration

As the candidate's Supervisors I agree/do not agree to the submission of this dissertation

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This study is dedicated to all individuals with cerebral palsy, especially those who I met whilst conducting this research and who taught me more than any text ever could.

Thank you for inspiring me and I hope that this research will somehow benefit you and other individuals with cerebral palsy.

To quote an individual with cerebral palsy from this study:

“Disabled people are normal people, we just have a disadvantage. I often tell people that everyone is disabled but you see my disability more than others. So what is different from me and you? Nothing is different. So don't feel like you can't work because of your disability.

You can work!”

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Abstract

Employment is a form of independence and self-acceptance which, for many individuals with disabilities, is crucial to improving quality of life. Communication underpins quality of life and, for individuals with cerebral palsy, communication may act as a barrier to successful employment. This study aimed to explore the employment experiences of individuals with cerebral palsy who have communication difficulties and their colleagues. A phenomenological qualitative approach was used within the context of the International Classification Framework and a critical paradigm. Individual semi-structured interviews were conducted with six individuals with cerebral palsy who had full-time employment and a colleague of each. Data was analysed using thematic analysis. Results revealed that individuals with cerebral palsy had reduced speech intelligibility that varied with the nature and severity of the cerebral palsy and led to communication breakdowns with colleagues. Communicating in a group and over the phone produced feelings of nervousness and one-on-one conversations were preferred. Gaps were noted in implementing legislation regarding inclusion and equal opportunities for individuals with disabilities in education and employment. Individuals with cerebral palsy faced numerous barriers to employment which included accessibility, communication, transportation, limitations in education, and a lack of opportunities. Employment opportunities included financial independence, social aspects, contributing to society, educating others about disability, improved self-perception and the impact of employing a person with cerebral palsy. A Speech-Language Therapist can assist with some of these barriers and is recommended across stages of life for different purposes. There are implications for improving service delivery and employment opportunities for individuals with cerebral palsy.

Keywords: cerebral palsy, employment, Speech-Language Therapy, disability

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Chapter One: An Introduction to Cerebral Palsy

This chapter introduces the research topic, the framework utilized for this study and a motivation for this study. Cerebral palsy is then introduced by looking at various definitions with specific reference to an adult with cerebral palsy.

1. Introduction

This aim of this study was to explore the employment experiences of individuals with cerebral palsy who have communication difficulties and their colleagues.

Individuals with disabilities have a history of being excluded from the work place and can be overlooked when it comes to employment. Despite legislation in South Africa promoting the inclusion of individuals with disabilities; such as the White Paper on Integrated National Disability Strategy (South African Government Information, 1997) and the Promotion of Equality and Prevention of Unfair Discrimination Act (Department of Labour (2002), there are still numerous individuals with disabilities facing barriers in the work place. For many individuals employment is a form of financial independence and self-esteem (Blackorby & Wagner, 1996). This however still remains an indefinable goal for individuals with disabilities, including cerebral palsy (McNaughton, Light, & Arnold, 2002). For individuals who have cerebral palsy who have entered the workforce there is little known about their experiences.

Many individuals with cerebral palsy attend mainstream education and further education (Levitt, 2013), thus increasing their chances of employment. Individuals with cerebral palsy also have increased chances of employment due to legislation, technological advances, and changing attitudes of society (Levitt, 2013). A critical barrier that people with cerebral palsy face in the work place is communication which in turn can affect quality of life.

“Communication underlies all aspects of life; it supports increased educational achievement, enhanced employment options, greater community inclusion, and improved quality of life overall” (Light & McNaughton, 2013, p. 301). Communication is subsumed into everyday life activities, such as feeding or meal times, talking on the telephone or typing an email, and the level of our communication skills determines our participation in such events.

Communication in the work place is critical to employment success and many individuals with cerebral palsy have difficulties with this (McDermott, Durkin, Schupf, & Stein, 2007). Issues that can affect quality of life in the work place include the ability of the individual to feel independent, to establish and achieve personal goals, to communicate wants and needs, to maintain social groups, and enjoy life (Haynes, Moran, & Pindzola, 2012). In order to adequately determine the issues that affect quality of life in the work place for individuals with cerebral palsy, it is important to first view these issues from the experiences of those individuals involved in order to gain a thorough understanding of the demands of the work place and effective strategies for meeting those demands. Therefore the aim of this study was to explore the employment experiences of individuals with cerebral palsy and their colleagues.

2. Framework

The International Classification of Functioning, Disability and Health (ICF) designed by the World Health Organisation (2001) was the framework used to view this study. The ICF is a classification of health and related fields which measures health and disability (World Health Organisation, 2001) . The ICF is seen as a biopsychosocial model of disability which is based on combining the medical model and the social model (Thomas, 2002). The medical model is based on the fact that an individual’s abnormality is caused directly by impairment which exists in their disabled body (Thomas, 2002) and the social model views the disability

as something that society created, rather than a biological nature (Oliver, 2004). Thus the ICF considers the medical aspect of the cerebral palsy and the social aspect such as the world the person with cerebral palsy lives and functions in.

The ICF is comprised of two main components, the first one is 'functioning and disability' and the second one being 'contextual factors' (World Health Organisation, 2001). The first component, functioning and disability, is made up of three parts which include: 1. body structure and function which encompasses the physiological aspects of the body, 2. activity which refers to the way an individual can perform a task, and 3. participation which indicates the level of involvement that the individual has in life (World Health Organisation, 2001). The second component, contextual factors, views the environment and the individual's personal factors. According to the World Health Organisation (2001), environmental factors are external to the individual and include the physical, social, and attitudinal environments whereas personal factors comprises of aspects such as age, gender, and social background.

Body structure and functioning in cerebral palsy is vital to determine the type of cerebral palsy and the topography of the cerebral palsy. Motor impairments are a prerequisite for a diagnosis. The activity performance of individuals with cerebral palsy is often compromised as there are several activity limitations, such as walking difficulties. As cerebral palsy is life-long, participating in daily life activities can be difficult and choice of leisure activities can be hindered (Andersson & Mattsson, 2001).

The ICF aims to view the individual as an individual with a disability and not as a disabled person (World Health Organisation, 2001). This point was carried throughout this study and assisted the researcher's understanding and emphasizing the strengths and difficulties of individuals with cerebral palsy in the work place.

A critical paradigm was also applied to this study. This framework was chosen as it seeks to both understand the social world as well as to encourage it (Blaxter, Hughes, & Tight, 2001). The goal of critical research is to challenge interpretations and values in order to bring about change (Mackenzie & Knipe, 2006). The researcher wanted to gain an understanding and highlight the strengths and difficulties of the individual with cerebral palsy in the work place in order to bring about change in society's view towards the employment of individuals with cerebral palsy and other developmental disorders.

3. Rationale

It is crucial to gain access to a specific population and see their perspective (Preece & Jordan, 2009). There is a gap in literature with regard to the communication and employment aspects of individuals with cerebral palsy in the work place. Many studies (for example Andersson & Mattsson, 2001; van der Dussen et al., 2001; Vogtle, 2013) that are conducted on employment and cerebral palsy focus on the physical aspects of the cerebral palsy rather than communicative strategies used or the communicative demand placed on the individual with cerebral palsy. To date, there is very little research done on cerebral palsy and employment in South Africa. There is also little research that looks at employment from the viewpoint of the individual with cerebral palsy.

A study conducted by Murphy, Molnar, and Lankasky (2000) in the United States determined that more adults with cerebral palsy are achieving competitive employment and independent living when compared to earlier studies. The authors attributed changes to advances in rehabilitation technology, better support in the home environment, and legislation mandating education and access to facilities. Although individuals with cerebral palsy may be working more, there is little research portraying the experiences and barriers that individuals with cerebral palsy face in the work place. Individuals who have attempted to

work or are currently working are an important source of information needed to explore the barriers to employment and strategies used to overcome these barriers.

It is important for Speech-Language Therapists to gain an understanding of how the individual's disability impacts quality of life (Buntinx & Schalock, 2010). In order to assist individuals with cerebral palsy in the work place, and improve quality of life, Speech-Language Therapists will need to have an understanding of the demands placed on these individuals. This could result in the implementation of positive employment strategies for individuals with cerebral palsy. A study conducted by Rutkowski and Riehle (2009) stated that practitioners working with young adolescents with cerebral palsy and other developmental disorders need to place more emphasis on employment during schooling and the transition stage. It is important for Speech-Language Therapists to know how communication difficulties can affect performance in the work place as this information can influence therapy goal setting and counselling (Haynes et al., 2012). Therefore, this research was necessary for improving service delivery and employment opportunities for individuals with cerebral palsy.

4. Definitions of Cerebral Palsy

4.1. Medical definition

Cerebral palsy is defined as a non-progressive disorder of movement and posture caused by a defect or lesion in the immature brain (Bax, 1964; Schenker, Coster, & Parush, 2005). Lord (1984) described cerebral palsy as persistent but unchanging. Most recently cerebral palsy is known as the “commonly used name for a group of conditions characterised by motor dysfunction due to non-progressive brain damage early in life” (Levitt, 2013, p. 1). It is now understood that although cerebral palsy is a non-progressive disorder the individual

may present with changes in characteristics over time (Mutch, Alberman, Hagberg, Kodama, & Velickovic, 1992; Rosenbaum, Paneth, Leviton, Goldstein, & Bax, 2007).

Cerebral palsy is a life-long disorder that persists from childhood to adulthood with no known cure. Cerebral palsy can occur prenatally, perinatally, or postnatally (Stanton, 2012) and thus can be congenital or acquired. Hankins and Speer (2003) suggested that most cases of cerebral palsy occur prenatally, before the onset of labour. The aetiology of cerebral palsy is abnormal brain development or brain dysfunction which can have many different causes such as “anoxia, intracranial bleeding, excessive neonatal asphyxia (hypoxic ischemic neonatal encephalopathy), trauma, hypoglycaemia, anoxia which may be due to near drowning, choking, neutrophic virus and from various infections” (Levitt, 2013, p. 3). In essence a critical feature pertaining to the definition of cerebral palsy is that the immature brain is affected by a lesion and this interferes with the maturation of the central nervous system (Bax, 1964). This has significance for the nature and severity of the cerebral palsy.

4.2. Prevalence of cerebral palsy

It is important to determine the number of individuals with cerebral palsy in order to facilitate the development of an effective strategy for employment and policies of individuals with cerebral palsy (Department of Women, Children and People with Disabilities, 2011). According to the Centres for Disease Control and Prevention (2013) cerebral palsy occurs in 2.9-3.3 per 1000 live births in America. Adnams (2010) found that the prevalence of intellectual and developmental disability in South Africa is greater than in higher income countries, however it is difficult to estimate the number of individuals with cerebral palsy in South Africa as the assessment and diagnosis is a complex and questioned area (McLaren, 2014). Two South African studies indicated high prevalence rates for cerebral palsy, between one percent (Couper, 2002) and eight percent (Christianson et al., 2002).

Population studies from around the world have stated that the prevalence of cerebral palsy is approximately 1 in every 323 people (Centres for Disease Control and Prevention, 2013). Clark and Hankins (2003) noted that cerebral palsy incidence is thought to be similar in developed and developing countries. Except for rare cases, cerebral palsy is a developmental disorder that is unpreventable with the use of our current technology (Clark & Hankins, 2003). Cerebral palsy prevalence may increase due to a rise in survival of infants with extremely low birth weight and prematurity (Pennington, Goldbart, & Marshall, 2005).

4.3. Classification of cerebral palsy

Cerebral palsy is variable in each individual. Cerebral palsy can range from mild to severe, and can include individuals who are completely independent, to those who are immobile, to individuals who have adequate abilities, such as talking, self-care, and walking (Levitt, 2013). Individuals with cerebral palsy may have difficulties either producing a movement, preventing a movement, or controlling a movement (Stanton, 2012). Individuals with cerebral palsy commonly have a mixed presentation of characteristics and may present with co-occurring characteristics (Bax & Brown, 2004). Co-occurring characteristics can include vision, hearing, swallowing, and speech and/or language difficulties or intellectual impairment.

Cerebral palsy is classified according to four components which are motor abnormalities, accompanying impairments, anatomical and neuro-imaging findings, and causation and timing (Rosenbaum et al., 2007). This classification system is summarised in Table 1. The first component, motor abnormalities is split into two sections, the first being nature and typology of the motor disorder and the second being functional motor abnormalities. Nature and typology of the motor disorder examines the observed tone of the muscles, for example hypertonia and hypotonia, and the diagnosed movement of the disorder

present, for example spasticity, ataxia, dystonia, and athetosis (Rosenbaum et al., 2007). The most common type of cerebral palsy is spasticity in which an individual may have spastic or ‘stiff’ movements which are slow and often lack in direction (Workinger, 2005). An individual with spasticity may have abnormal resistance to muscle lengthening (Gillam, Marquardt, & Martin, 2011). Ataxic cerebral palsy is characterised by difficulties with balance and a poor posture (Workinger, 2005) with unsteadiness on walking. Individuals with ataxia may have problems with quick movements or movements needing control as their movements are often imprecise and become less co-ordinated the faster they try to make the movement (Strauss, Rosenbloom, & Shavelle, 2008). Dystonia refers to cerebral palsy that occurs when an individual has an abnormal posture and involuntary movements (Tasse, Havercamp, & Thompson, 2006). Dystonia can also refer to repeated twisting postures of the body, arm, or legs (Bjorklund, 2007). An individual with athetoid cerebral palsy may have slow, writhing movements which are uncontrollable and have varying muscle tone which can change from day to day (Strauss et al., 2008). Although less common, mixed cerebral palsy can also occur and is a combination of spastic, athetoid, and/or ataxic cerebral palsy and these individuals may have high or low muscle tone which creates a mix of stiffness and involuntary movements (Tasse et al., 2006).

The second section, functional motor abilities, refers to the extent that the individual with cerebral palsy is limited in his/her motor function, including speech functioning (Rosenbaum et al., 2007). In order to classify motor function in cerebral palsy the World Health Organisation (2001) stated that a separate classification system should be used. The Gross Motor Function Classification System (GMFCS) is widely used in this regard (Rosenbaum et al., 2007). The GMFCS utilizes a five-level system that links to the extent of ability and the limitation of impairment. The five different levels are listed as described by Levitt (2013).

- I. GMFCS Level One: the individual walks without limitations.
- II. GMFCS Level Two: the individual walks with limitation which can include walking long distances and balancing, and these individuals may rely on assistive devices to aid them when first learning to walk or walking long distances.
- III. GMFCS Level Three: the individual is only able to walk with the use of assistive devices and is able to sit on their own or with limited support.
- IV. GMFCS Level Four: the individual has limited self-mobility (requires a wheelchair) and requires support when sitting.
- V. GMFCS Level Five: the individual has severe head and trunk control limitations and requires extensive support in all aspects.

The second category of classifying cerebral palsy is accompanying impairments. This category looks at the absence or presence of later developing musculoskeletal problems and/or accompanying non-motor neurodevelopmental or sensory problems which can include seizures, hearing or visual abnormalities, attentional abnormalities, behavioural issues, communication difficulties, and intellectual limitations, as well as the severity of these deficits (Rosenbaum et al., 2007). These accompanying impairments have the ability to hinder function and provide even more restriction in daily life activities (Levitt, 2013).

The third category has two sections which are the anatomical distribution and the neuro-imaging findings. The anatomical distribution or topography refers to the parts of the body affected by the motor impairment. Stanton (2012) describes the topographical classification as quadriplegia in which all four limbs are affected, diplegia occurs when all four limbs are affected, however, the legs are more severely affected than the arms, paraplegia when both legs are affected, triplegia when three limbs are affected, hemiplegia

when one side of the body is affected, and monoplegia which occurs when one limb is affected. There is no specific classification system for neuro-imaging, however advances in technology are proving that this will be useful in the future (Rosenbaum et al., 2007).

The fourth and final category of classifying cerebral palsy is causation and timing. This refers to the cause of the cerebral palsy and the time frame during which the injury occurred (Rosenbaum et al., 2007). It is apparent that there are many circumstances that can affect the motor areas of the brain at any time between conception and early childhood and be a possible cause of cerebral palsy. While there are many risk factors for cerebral palsy, for many cases there is no clear cause (Blair & Stanley, 2009). Due to this fact classifying cerebral palsy based on cause is not realistic (Rosenbaum et al., 2007). “For the present, timing of insult should only be noted when reasonably firm evidence indicates that the causative agent, or a major component of the cause, was operative in a specific time window” (Rosenbaum et al., 2007, p. 13). A summary of the above classification system is outlined in Table 1.

Table 1

Components of Cerebral Palsy Classification System (Rosenbaum et al., 2007, p. 12)

Category	Sub-category
1. Motor abnormalities	1.1. Nature and typology of the motor disorder Observed tonal abnormalities assessed on examination (e.g. hypertonia, hypotonia) and diagnosed movement disorder present (e.g. spasticity, ataxia, dystonia, athetosis). 1.2. Functional motor abilities Extent to which the individual is limited in motor function, including oromotor and speech function.
2. Accompanying impairments	Presence or absence of later-developing musculoskeletal problems and/or accompanying non-motor neurodevelopmental

	or sensory problems, e.g. seizures, hearing or vision impairments, or attentional, behavioural, communicative and/or cognitive deficits, and the extent to which impairments interact in individuals with cerebral palsy.
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3. Anatomical and neuro-imaging findings	<p>3.1. Anatomical distribution</p> <p>Parts of the body (limbs, trunk, bulbar region, etc.) affected by motor impairments or limitations.</p> <p>3.2. Neuro-imaging findings</p> <p>Neuroanatomic findings on CT or MRI imaging, e.g. ventricular enlargement, white matter loss or brain anomaly.</p>
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4. Causation and timing	Whether there is a clearly identified cause, as is usually the case with post-natal cerebral palsy (e.g. meningitis, head injury) or when brain malformations are present, and the presumed time frame during which the injury occurred, if known.
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Although cerebral palsy is seen as a non-progressive disorder (Workinger, 2005), research by Krakovsky, Huth, Lin, and Levin (2006) determined that there are functional changes with regard to standing independently, walking with or without assistance, and eating by mouth. This view was paralleled by Liptak (2008) who found a regression in several areas of functioning, which impacted on individuals with cerebral palsy's participation in areas such as employment and social interactions. Functional changes in individuals with cerebral palsy have implications for daily life activities, such as employment and independent living which is highlighted as an important area by the ICF (World Health Organisation, 2001). This shows that individuals with cerebral palsy need to be monitored from childhood, adolescence, and through to adulthood to determine their functional level and how this can impact daily life.

5. Outline of Chapters

Chapter one is entitled “An Introduction to Cerebral Palsy’ and introduced the topic of the research study, the rationale and the framework that was utilized throughout the study. Various definitions of cerebral palsy, the prevalence of cerebral palsy and how the disorder is classified were discussed.

Chapter two discusses the associated characteristics involved with cerebral palsy. Communication difficulties, feeding or swallowing disorders associated with cerebral palsy and the influence of these in the work place are described. The educational and transition period from school to employment are reviewed. The role of disability in South Africa is highlighted by looking at policies and legislation that aim to promote inclusion in the work place. Types of employment and the benefits of employment will be reviewed, as well as common intervention practices and vocational courses. The role of employment in relation to an individual’s quality of life will be introduced by discussing communication in the work place and speech-language therapy for adults with cerebral palsy.

Chapter three outlines the methods and procedures that were utilized for this study. The aim, objectives, study design and approach, data collection method, data collection instrument, and methods of data analysis will be discussed. Results of the pilot study and applicable changes will be included. Issues of reliability and trustworthiness, as well as ethical considerations will be identified.

Chapter four is the results section of this study, where the data has been analysed and grouped into themes and sub-themes. The results are discussed qualitatively and compared in accordance with relevant literature.

Chapter five provides the conclusion drawn from this study and highlights the limitations of the study. Suggestions for clinical and research implications are presented.

Summary of Chapter One

Chapter one provided an introduction to the main topic of this research. The rationale and framework utilized in this study was described. Cerebral palsy was introduced by

describing various definitions, the prevalence of cerebral palsy, and how the disorder is classified. A summary of each chapter in this research study was provided.

Chapter 2: Life with Cerebral Palsy

The characteristics associated with cerebral palsy will be discussed in this chapter. Communicative abilities, as well as feeding and swallowing disorders, will be highlighted to reveal the influence these may have on employment. Education and the transition period from school to employment and the role of these in influencing employability will be analysed. This chapter also focuses on employment of individuals with cerebral palsy from a range of angles. Firstly, the rights of individuals with disabilities will be expanded in order to gain insight into the South African policies and legislation that promote the individual with cerebral palsy's right to be employed and equality in the work place. The employment rate of individuals with cerebral palsy will be reviewed, both internationally and in South Africa, in relation to relevant policies. The role of employment for an individual with cerebral palsy will be discussed and how this can improve quality of life as well as a way of gaining independence. The importance of communication in the work place and Speech-Language Therapy for adults with cerebral palsy will be discussed with particular reference to how this can affect an individual with cerebral palsy.

1. Cerebral Palsy Characteristics

1.1. Speech characteristics

Individuals with cerebral palsy may experience several difficulties with communicative aspects, such as speech, the development of gestures and facial expression, the acquisition of receptive and expressive language, and voice production (Pennington et al., 2005). Kuschmann and Neill (2014) estimated that approximately fifty percent of children with cerebral palsy have some form of communication impairment whilst Pennington et al. (2005) estimated that approximately twenty percent of children diagnosed with cerebral palsy have severe communication impairments which may continue through to adulthood, thus highlighting the importance of communication abilities in adults with cerebral palsy.

The speech of individuals with cerebral palsy is associated with limited breath control, changes in voice quality and imprecise articulation (Kuschmann & Neill, 2014). These difficulties impact speech intelligibility which can act as a barrier to successful interactions (Kuschmann & Neill, 2014). Reduced speech intelligibility may have an effect on participation, development of relationships and educational achievement (Kuschmann & Neill, 2015). The most common communicative disorder associated with cerebral palsy is developmental dysarthria which is a motor speech disorder characterized by shallow, irregular breathing, reduced pitch and imprecise articulation (Pennington, Miller, Robson, & Steen, 2010). Reduced articulation can impact on an individual's ability to participate in social events, their development of relationships, and their educational achievement (Kuschmann & Neill, 2014). These communicative difficulties may be experienced from early infancy through to adulthood (Pennington et al., 2005).

Speech disorders in cerebral palsy may vary according to the type and severity of the cerebral palsy and are usually a result of weakness and incoordination (Duffy, 2013). Speech disorders are associated with each type of cerebral palsy and affect speech intelligibility of the individual (Pennington et al., 2005). All aspects of speech production may be affected, i.e. respiration, phonation, resonance, articulation, and prosody.

Respiration difficulties are due to the inability to generate and maintain subglottal pressure (Gillam et al., 2011). Difficulties with respiration may be present and can result in reduced respiratory support for speech. Often a harsh, strangled, or breathy voice affects phonation. Tension in the vocal folds can be so great that phonation is absent despite the individual's attempts to communicate (Duffy, 2013). There may also be mistiming of respiratory and laryngeal activity as respiration frequently begins before the vocal folds are closed which causes a loss of air. This results in errors of voiced-voiceless distinctions in contrast sounds like /p/ and /b/ and /s/ and /z/ (Gillam et al., 2011). Resonance can be

problematic in cerebral palsy due to a premature opening of the velopharynx during the production of syllables and a break of the velopharyngeal seal during non-nasal productions (Gillam et al., 2011). This results in hypernasality and nasal emission during speech production.

Articulation problems are a common, and often severe, difficulty in individuals with cerebral palsy (Duffy, 2013). Articulation errors may be the result of a hyperextended mandible with an open mouth, which makes it difficult to round, protrude, or close the lips. A hyperextended jaw and abnormal tongue position may prevent precise shaping and constriction of the vocal tract for vowel and consonant production (Gillam et al., 2011). This results in speech that has poor intelligibility and may be difficult to understand. The articulatory sub-system is the primary contributor to reduced speech intelligibility (Kuschmann & Neill, 2014).

Prosody is affected as utterances may be short or even limited to one or two words per breath. This is due to “poor respiratory control which disrupts timing of respiratory and laryngeal functioning, and poor control of laryngeal tension, intonation and the ability to mark stressed words in an utterance are impaired” (Gillam et al., 2011, p. 186). There are also difficulties with the ability to mark stressed words in an utterance in languages using stress. Speech disorders may be classified as mild, functional, can result in speech that is difficult to understand, or little to no functional speech.

In addition to the above mentioned speech disorders, individuals with cerebral palsy may present with dysarthria which is a motor speech disorder associated with cerebral palsy. Dysarthria is caused by neuromuscular dysfunction (Gillam et al., 2011). Dysarthria follows the same classification as cerebral palsy, for example, if an individual with spastic cerebral palsy develops dysarthria they will have spastic dysarthria (Workinger, 2005). The speech

characteristics with which an individual with dysarthria may present are illustrated in Table 2. Dysarthria is known as a heterogeneous group as there are a number of different types, such as spastic, ataxic, flaccid, hypokinetic, hyperkinetic, and mixed dysarthria. It can have a mild to severe effect on speech and can encompass difficulties with all or some speech sub-systems (Gillam et al., 2011). As cerebral palsy is a result of an upper neural deficit, an individual with cerebral palsy can present with any of the dysarthria's listed below, such as spastic, ataxic, flaccid, hyperkinetic, hypokinetic and mixed dysarthria (McCaffrey, 2013).

“The speech characteristics of spastic dysarthria reflect the effects of hypertonicity (or spasticity) and weakness of the bulbar musculature in a way that slows movement and reduces its range and force” (Murdoch, Ward, & Theodoros, 2011, p. 187). Thus the spasticity refers to upper motor neuron damage, which include spastic paralysis or paresis of the involved muscles (Murdoch et al., 2011). Four main symptoms are associated with spastic dysarthria and include spasticity, weakness, limited range of movement, and slowness of movement resulting in speech that is slow, laboured, and effortful. Speech may be characterized by imprecise articulation, slow rate of speech, short phrases, harsh voice quality, reduced loudness, and pitch variation (Gillam et al., 2011).

Ataxic dysarthria is a disorder of sensorimotor control for speech production. Speech is often slurred or compared with ‘drunken speech’ (Cannito & Marquardt, 2009). Individuals with ataxic dysarthria experience a disintegration of motor processes from a disturbance in the cerebellum which controls the regulation of movement (Cannito & Marquardt, 2009) and thus the primary characteristics relate to co-ordination (Gillam et al., 2011). Prosody in ataxic dysarthria may be monotonous with disruptions in stress patterns. Stressed syllables are sometimes unstressed and unstressed syllables are stressed. There is usually a slow rate of speech, with an increase in duration of vowels. Speech intelligibility is often only mildly affected (Gillam et al., 2011).

Flaccid dysarthria is an “interruption of normal input to the muscles from the peripheral nervous system caused by muscle weakness, hence the term flaccid” (Gillam et al., 2011, p. 187). Thus muscles are “cut off” resulting in flaccid muscles. Flaccid dysarthria is associated with lower motor neuron weakness of the bulbar muscles (Kirshner, 2004). Speech characteristics result primarily from muscle weakness (Gillam et al., 2011). Speech may be breathy, nasalised, and consonants may be produced imprecisely (Kirshner, 2004). There may be weak production on stops and fricatives and reduced phrase length (Gillam et al., 2011). Hypokinetic dysarthria is caused by a disturbance in all motor-speech processes which may be a result of anticipatory and compensatory behaviours (Zraick & LaPointe, 2009). The individual’s muscles are hypotoned and rigid which results in reduced movement. Speech movements are small and individuals may have a fast rate of speech as speech comes in short rushes. Prosody is characterized by monoloudness, monopitch, and reduced intensity (Gillam et al., 2011).

Hyperkinetic dysarthria, somewhat opposite of hypokinetic dysarthria, is characterized by a clear variation in rate, loudness, and timing, with distortion of vowels, harsh voice quality, and occasionally sudden stoppages in speech (Kirshner, 2004). The individual may speak in short phrases and have long pauses between speech or breakdowns in speech (Gillam et al., 2011). These speech characteristics are due to the involuntary movements of hypokinetic dysarthria (Gillam et al., 2011). Phonation may also have a strangled sound depending on the state of fluctuating tone of the laryngeal muscles and the degree of breath support (Gillam et al., 2011).

Mixed dysarthria is a combination of the five types of dysarthria and will vary according to the sub-systems involved (Kirshner, 2004). Table 2 summarises the main speech characteristics for each subtype of dysarthria.

Table 2

Speech Difficulties in Dysarthria

Type of dysarthria	Speech characteristics
Spastic	Imprecise articulation, slow rate of speech, and a harsh voice quality (Gillam et al., 2011, p. 188).
Ataxic	Phoneme and syllable prolongation, slow rate of speech, slurred speech, and abnormal prosody (Gillam et al., 2011, p. 188).
Flaccid	Audible inspiration, hypernasality, nasal emission, and breathiness (Gillam et al., 2011).
Hypokinetic	Monoloudness and monopitched speech in short rushes, imprecise articulation, and a variable rate of speech (Gillam et al., 2011, p. 188).
Hyperkinetic	Slow rate of speech, ‘strangled’ phonation, and often little or no functional speech (Panteliadis & Strassburg, 2004).
Mixed	Speech characteristics are dependent on the motor systems affected.

1.2. Language characteristics

The language skills of individuals with cerebral palsy have not been researched extensively and studies report mixed findings with the development of language skills in individuals with cerebral palsy (Falkman, Sandberg, & Hjelmquist, 2002). This is due to the heterogeneity of this group and exposure to opportunities to communicate (Bishop, Brown, & Robsen, 1990; Falkman et al., 2002). Establishing the extent of language impairment in cerebral palsy is not an easy task (Cummings, 2008). Due to the varying levels of severity and characteristics of individuals with cerebral palsy, as well as the different types of cerebral palsy, it is hard to determine a pattern of language strengths and weaknesses as it will differ from person to person (Pennington et al., 2005), however individuals with cerebral palsy are at risk for a language disorder (Richardson & Kertoy, 2006).

A study by Parkes, Dolk, Hill, and Pattenden (2001) showed that out of 886 children with cerebral palsy, fifty two percent had a severe learning disability which impacts on the development of language. Richardson and Kertoy (2006) found that many children with cerebral palsy had receptive vocabulary skills that were within the normal range when compared to the general population but had more difficulties with overall (both receptive and expressive) language abilities. Where learning disability is not a consideration, receptive language abilities are more advanced than expressive language abilities in cerebral palsy (Cummings, 2008). Phonological deficits are common in individuals with cerebral palsy and can influence the development of wider language literacy skills (Cummings, 2008).

Cognitive factors, speech, and language deficits are all interrelated with cerebral palsy (Gillam et al., 2011). Associated factors, such as hearing impairment and intellectual disability, have negative implications for communication in cerebral palsy (Cummings, 2008). Intellectual deficits limit language acquisition in the child with cerebral palsy and can determine the level of severity of language abilities (Cummings, 2008). Poor language abilities in children with cerebral palsy may be due to motor limitations which restrict the child's interaction with the environments and hence limit the development of linguistic skills (Fogle, 2013). Hearing impairment, intellectual deficits, and motor limitations all work together to limit the development of vocabulary, and discourse skills in children with cerebral palsy (Gillam et al., 2011).

1.3. Literacy skills

Literacy skills in individuals with cerebral palsy will vary depending on their intellectual and communicative skills (Stanton, 2012). Literacy skills are a way of gaining independence for individuals with disabilities as it provides access to educational and vocational opportunities, which can be limited due to the physical and communication impairments of these individuals (Fogle, 2013). For nonverbal individuals with cerebral

palsy, literacy is more than just learning to read and write as it expands the individual's ability to communicate on multiple subjects and is an important form of self-expression (Glennen & DeCoste, 1997). Literacy skills may allow for more sophisticated augmentative and alternative communication (AAC) system which allows for better communication (Fogle, 2013). Individuals who attend mainstream school will have the same level of language skills as other children in the same grade, however tasks may be more time consuming for an individual with cerebral palsy due to the motor limitations these individuals may experience (Stanton, 2012). Difficulties with writing by hand are usually present in individuals with cerebral palsy due to motor limitations (Stanton, 2012).

1.4. Augmentative and Alternative Communication

Individuals with cerebral palsy may be nonverbal or have little to no speech and may require assistance with their speech. These individuals may use augmentative and alternative communication (AAC). AAC refers to any means of communication used as a substitute for speech or as a way to supplement speech. Beukelman and Mirenda (2005, p. 4) describe AAC as a means to compensate for “activity limitations and participation restrictions of persons with severe disorders of speech-language production and/or comprehension”. This can involve non-electronic and electronic systems. For an individual with dysarthria resulting from cerebral palsy, AAC may be a necessity and the primary means of conveying messages (Gillam et al., 2011). Thus AAC can also be viewed as an important component of following the ICF framework for individuals with complex communication needs.

AAC can also provide “appropriate and comprehensive services for people who have complex communication needs” (Light & McNaughton, 2013, p. 299). The use of an AAC system has resulted in individuals attaining a higher education, securing employment and participating more fully in society (Friginal, Pearson, Di Ferrante, Pickering, & Bruce, 2013).

An AAC device can be daunting for an individual who is not aware of its usage and as a result they may avoid interacting with the AAC user. It could also be time consuming to hold a conversation with an individual who uses an AAC device and the listener will need to have training and education on the device. This could hinder social interaction in the work place (Gillam et al., 2011). Employing an individual who requires the use of an AAC system could have cost implications for an employer as they will need to train their staff to communicate with the AAC user and there may be technological barriers. In research by McNaughton et al. (2002), individuals who had cerebral palsy and used AAC stated that there was limited technology available or breakdowns with technology occurred, and that the AAC systems often limited their social interaction with their colleagues as they felt that there was a lack of spontaneity and they had difficulty communicating in a group of people. Other barriers to employment for individuals who use AAC are few opportunities to find jobs, poor educational preparation, a lack of appropriate supports and negative societal attitudes (McNaughton & Bryen, 2007).

There is little research depicting the employment rates of individuals who rely on AAC devices to communicate (Boyd, 2010), however individuals with multiple disabilities, including those who use AAC, to have the lowest employment rates of all disability groups. (Blackorby & Wagner, 1996; McNaughton & Bryen, 2007) Despite this, employment for individuals who require AAC can be successful and there are many benefits to using AAC technology in the work place (McNaughton et al., 2002). Using AAC systems and technology for communicating can offer the “potential to support communication needs and wants, develop social relationships, and exchange information faster and with greater reach than ever before” (Hyatt, 2011, p. 25).

1.5. Feeding and swallowing difficulties

The neuromuscular impairments that underlie dysarthria may also cause difficulties in swallowing which is known as dysphagia (Gillam et al., 2011). Dysphagia occurs when there is an impairment or difficulty moving food from the mouth to the stomach (Logemann, 1998). An individual with dysphagia will have problems with any of the four phases of swallowing: oral preparation, oral stage, pharyngeal stage, or oesophageal stage (Salghetti & Martinuzzi, 2012). Eating and swallowing impairments may develop or worsen over time, as the individual with cerebral palsy ages, which may make obtaining adequate nutrition and hydration difficult (Haak, Lenski, Hiderdeck, Li, & Paneth, 2009).

Eating is a social activity and the individual with dysphagia will need to feel confident in order to increase their self-esteem and establish social connections (Haynes et al., 2012). In a study conducted by Gustafsson and Tibbling (1991) half of the individuals with dysphagia that participated in the study felt anxious when eating and preferred to eat alone. Eckberg, Hamdy, Woisard, Wutte-Hannig, and Ortega (2002) found that dysphagia created a social and psychological consequence that is not well documented in literature, and thus participants in their study avoided eating with other people. Some individuals with cerebral palsy may need assistance from another individual whilst eating and thus eating patterns may limit an important daily activity that is shared with other people (Haak et al., 2009). Dining together is an important social interaction for an individual and a person with eating difficulties may feel socially isolated (Haak et al., 2009). This highlights the difficulties that individuals with dysphagia may face in the work environment during mealtime.

Social problems related to daily occupation and education, and limited ability to communicate are recognised as areas of concern for adults with cerebral palsy and can have limitations on participation in daily life (van der Dussen, Nieuwstraten, & Stam, 2001). This

is in accordance with the ICF Framework in which participation is an important component of daily functioning (World Health Organisation, 2001).

2. Education and Cerebral Palsy

South Africa's previous education structure was that of a dual system where there was education for learners with barriers to learning and mainstream education. Learners who were classified as having barriers to learning where those with physical, sensory, intellectual, developmental, or other differences (Gordon, 2000). It was assumed that children with these barriers to learning needed some form of specialised education and intervention if they were to be effectively educated (Gordon, 2000). Individuals with disabilities such as cerebral palsy were categorized as special needs and placed in specialised education. With legislation in South Africa such as White Paper 6 (Department of Education, 2001), the inclusion of learners with disabilities in mainstream schools is promoted. White Paper 6 further promotes not only inclusion in education but quality education for children with disabilities (Department of Women, Children and People with Disabilities, 2008). Promoting inclusion in schools also endorses equal opportunities in academic and vocational training, thus furthering employment opportunities.

Despite legislation that is in place, the percentage of children attending school is roughly 10 percent less for disabled children than non-disabled people in South Africa (Statistics South Africa, 2011). The Organisation for Economic Co-operation and Development (2008) stated that the amount of physical resources and staff available in schools in South Africa is inadequate and thus learners with disabilities are being turned away from schools.

As cerebral palsy differs widely in terms of the types of cerebral palsy, topography of the cerebral palsy and the associated conditions that may occur, learners with cerebral palsy

may vary in terms of which schooling they attend. The type of school a learner with cerebral palsy attends will be based on the amount of support they require and access to such schools. Some learners with cerebral palsy will be able to attend a mainstream school, some LSEN (learners with special education needs) school/unit, and others may attend a support centre. Irrespective of the type of schooling, all children with cerebral palsy are entitled to education. In many cases, the schooling is chosen based on the complexity of the needs as a result of cerebral palsy (Peer & Reid, 2008). “Access to the National Curriculum is enhanced when children with cerebral palsy have opportunities to develop stable sitting, head control, hand-eye co-ordination, gross/fine motor skills, effective communication, independence in standing, walking, and self-help skills” (Friel, 2014, p. 25). Regardless of the school there are various teaching methods for educating children with cerebral palsy and a team of professionals is usually involved (Peer & Reid, 2008).

3. Transition from School to Adult Life with Cerebral Palsy

Transition for adolescents is defined as the movement away from child-centred activities towards adult-centred activities (Liptak, 2008). In the past cerebral palsy was viewed as predominantly a paediatric condition and thus there was not much focus on the transition into adulthood (Bottos, Feliciangeli, Sciuto, Gericke, & Vianello, 2001). Treatment for most children with cerebral palsy is intensive until about 18-20 years, after that there is little or no continuity of care after leaving school (van der Dussen et al., 2001). A study by Stevenson, Pharoah, and Stevensen (1997) showed that a majority of the participants in their study, who were adults with cerebral palsy, had severe health problems that remained untreated due to reduced health care services after leaving school.

Recently there has been more of a focus on the transition period; this is because of the growing number of adults with cerebral palsy due to advances in medical care and increased life expectancy in general (Bottos et al., 2001). Hemming, Hutton, and Pharoah (2008) found

that once children with cerebral palsy had passed the age of 20 years, approximately 85% survived to the age of 50 years, as opposed to a rate of 96% for the general population. This shows that transition planning should be a priority in schools in order to improve the adult life of the individuals with cerebral palsy. A recently approved policy for the higher education and vocational training of individuals with disabilities was published by the Department of Higher Education and Training (2013). This policy aims to improve access to post-school education and training for people with disabilities. Once this policy is implemented it will aid in improving chances of success at higher education for individuals with disabilities. The policy also promotes the importance of vocational training for all individuals (Department of Higher Education and Training, 2013) which may aid in better employment opportunities.

The transition from childhood and adolescence into adulthood with a condition like cerebral palsy can be extremely difficult (Murphy & Bliss, 2004). Coordinated care planning should begin before the child with cerebral palsy leaves school, and is vitally important in the month just after the child leaves school in order to assure that there is an improvement in employment services (Stevenson et al., 1997). One way to optimize transitioning would be to have a plan that includes suitable preparation, flexible timing, and care co-ordination (Liptak, 2008).

Despite adults with cerebral palsy having a level of independence in activities of daily living, mobility, and communication these individuals are often poorly integrated socially, in terms of both education and employment (van der Dussen et al., 2001).

4. The Rights of Individuals with Disabilities

Describing disability is complex as it is seen as a controversial concept to define and measure (Burkhauser & Houtenville, 2001). Disability can be described as a combination of

impairment and some type of activity limitation (Barnow, 2008) or as a long-term impairment that affects intellectual, communication, physical or sensory functioning (Department of Women, Children and People with Disabilities, 2011). The International Classification for Functioning and Disability (ICF) describes disability as an umbrella term for a range of impairments which includes impairments, activity limitations, and participation restrictions (World Health Organisation, 2015). The way an individual functions affects the way people view individuals with disabilities and obtaining equal rights for individuals with disabilities is in line with the social model (The United Nations Children's Fund, 2007). The ICF describes participation in society as integral to optimal functioning and well-being (World Health Organisation, 2001). The rights for people with disabilities were put in place in order to promote inclusion and prohibit discrimination.

South Africa has made vast improvements in legislation and policies to include people with disabilities in society. These include the White Paper on Integrated National Disability Strategy (South African Government Information, 1997) and the Promotion of Equality and Prevention of Unfair Discrimination Act (Department of Labour (2002) The Department of Women, Children, and People with Disabilities (2011) acknowledged that although the legislation is in place, it is not completely implemented in order to meet the needs of individuals with disabilities. With new models of disability emerging, these models impact our understanding of disability and validate the importance of professional assistance that is individualised (Buntinx & Schalock, 2010). Recently, models have been addressing the change in society's views on individuals with disabilities and acknowledge their rights and social, physical and emotional well-being as well as their material well-being which includes work and employment (Buntinx & Schalock, 2010). Currently, South Africa uses a socio-political model as an approach to disability management (Van Staden, 2011).

The White Paper on Integrated National Disability Strategy (South African Government Information, 1997) was developed through consulting with relevant disability organisations and is thus an important document for disability management in South Africa. This paper follows a socio-political approach to disability management. The socio-political model was originally designed around the social model and it led to many important policies which prioritised the choices around disabling barriers with a strong emphasis on human and civil rights (Albert, 2004). This model emphasises that support and leadership is provided at a political level but is driven by the community of individuals with disabilities as most hindrances to individuals with disabilities are modulated by their social environment (Van Staden, 2011). A number of international developments which evaluate the importance of re-examining disability models that are operative in countries and international organisations were highlighted by Seelman (2004). These developments involved conflict between health professionals who identified with the medical model and individuals with disabilities who identified with the social model, access to technology, rehabilitation research, social welfare programmes funding with increasing numbers of individuals with disabilities and lastly, poverty as a major barrier to support of disability programmes in developing countries (Seelman, 2004). Although these developments are addressed in the White Paper on Integrated National Disability Strategy (South African Government Information, 1997), they reflect some of the key challenges experienced by persons with disabilities in South Africa (Van Staden, 2011). These developments identified by Seelman (2004), and the relevance of the current South African socio-political model, are important to the rights of individuals with disabilities as they play a fundamental role in policy guidelines (Van Staden, 2011). This is also outlined in the White Paper on Integrated National Disability Strategy (South African Government Information, 1997)

Currently there is growing acknowledgement at an international level of the right of individuals with disabilities to take control of their lives (Curryer, Stancliffe, & Dew, 2015). The United Nation's Convention on the Rights of Persons with Disabilities supports the rights and freedom of people with disability and intends to promote independence, choice making and decision making (United Nations, 2006). This is in line with the socio-political model utilised in South Africa which aims to provide the individuals with disabilities the opportunity to have more control over decisions that are made.

It was suggested by The Department of Women, Children and People with Disabilities (2011) that opportunities of employment should exist along a continuum so as to cater for the needs of any individual with a disability. This view therefore supports the concepts of sheltered employment workshops, vocational training centres, incentive schemes and subsidies for such programmes (The Department of Women, Children & People with Disabilities, 2011). For individuals with cerebral palsy who have a wide variety of characteristics, they may be involved along the entire continuum of employment opportunities. Individuals with a disability have the right to earn an income which is sufficient for covering their day to day necessity expenses (Matthews & Matthews, 2012).

5. Employment Rate

It is important to know the statistics of persons with disabilities in order to develop and implement policies (Altman, 2006). There is a lack of reliable information on the nature and prevalence of disability in South Africa (Van Staden, 2011). Approximately 5 to 12% of people in South Africa are disabled (Census, 2011; Department of Women, Children and People with Disabilities, 2011). The statistics from the South African Census indicate that, for the age group of individuals between 15 and 65 years of age, 19% of individuals with disabilities were employed, compared to 35% of non-disabled individuals (Statistics South

Africa, 2011). The South African Commission for Employment Equity stated in its 2003/2004 report that there are 29 451 individuals with disabilities employed by large employers and the total number of individuals employed was 2 940 998 (Van Staden, 2011). Only about 18% of people with disabilities are employed in South Africa (Statistics South Africa, 2011). A contributing factor to this is a generally low employment rate of 35% in South Africa (Statistics South Africa, 2011). Thus individuals with disabilities are approximately 1% of the total workforce in South Africa (Van Staden, 2011). A similar comparison was made with the 2007/2008 Annual Report of the Commission for Employment Equity which showed that the total number of individuals with disabilities employed was 0.52%.

This information highlights the low percentage of individuals with disabilities in employment. The Annual Report of the Commission for Employment Equity (Department of Labour, 2014) states that the disadvantaged position of individuals with disabilities is due to diverse socio-economic and social cultural factors, particularly low levels of education, discrimination in the labour market, and negative attitudes of those they live amongst. These low employment levels highlight the continued relegation and lack of independence within the society of individuals with disabilities (Van Staden, 2011).

6. Cerebral Palsy and Employment

Part of being an adult includes completing formal education, entering the work force, living independently, and enjoying group social interactions (Liptak, 2008). The ICF (World Health Organisation, 2001) designates employment and work as activities and participation. Components of the ICF have been identified as important outcomes of treatments received by individuals with cerebral palsy (Vogtle, 2013), thus further emphasizing the importance of employment. Employment is seen as an expression of one's personality in society as it allows an individual to gain independence and socialize with a variety of people (Bertazzi, 2010).

Schriner (2001) stated that individuals with disabilities are among the most economically disadvantaged groups in society. This applies to the South African perspective (Van Staden, 2011). The Department of Women, Children and People with Disabilities (2011) stated that there should be a continuum of opportunities for employment in order to cater for the needs of all individuals. This view supports all vocational training centres and different types of employment, such as competitive employment, supported employment, and sheltered employment.

Competitive employment, which is emphasized throughout this research study, is defined as employment that has equal terms for people with and without disabilities (Michelsen, Uldall, & Madsen, 2005). The individuals with disabilities working in competitive employment will be paid at minimum wage or higher and they will work at a rate that is comparable to non-disabled workers performing the same tasks (Logsdon, 2011). The individuals who obtain competitive employment receive no support in the work place when it comes to performing job tasks and have a proactive role in seeking their own employment (Logsdon, 2011). Competitive employment is sometimes referred to as open employment (Kober, 2010).

Supported employment is a form of competitive employment (Kober, 2010). In supported employment the individual works alongside individuals with and without disabilities and the individual with the disability receives support to assist him/her developing the necessary skills needed for the work place (Michelsen et al., 2005).

Sheltered employment is designed specifically for people with disabilities. The individuals work alongside other individuals with a disability in a specially tailored environment that is usually segregated from other work places (Kober, 2010). Usually in a sheltered setting the only people that the individuals with disabilities interact with would be

their supervisors (Kober, 2010). Sheltered employment in South Africa is considered to be in line with international guidelines (Ramutloa, 2012).

A study by Murphy et al. (2000) showed that the type of employment that individuals with cerebral palsy are reported to obtain, correlates more with intellectual status rather than with physical or communicative impairments. This shows that individuals with cerebral palsy are not being discriminated against based on their physical disabilities. The employment rate for individuals with cerebral palsy is not known and varies widely amongst different studies. A quantitative study by Michelsen et al. (2005) revealed that international percentages of individuals with cerebral palsy who work in competitive employment ranges from 29% to 52% of the cerebral palsy population. Only 42% of adults with cerebral palsy were reported to be employed between 1983 and 1996 in the United States (Burkhauser & Houtenville, 2001). It is important to note that no large scale study has been conducted determining the type of work that individuals with cerebral palsy obtain, most of the studies are small scale studies and the results are only valid for a small geographic area where the study was conducted (Michelsen et al., 2005). Regardless of the figures, employment has consistently been documented as being lower in adults who have cerebral palsy than in comparable adults without disabilities (Liptak, 2008).

Individuals with disabilities are more likely to be employed in an unskilled position and less likely to hold a professional or management position (Schriner, 2001). Michelsen et al. (2005) indicated that a possible reason for low employment rates could be due to the fact that individuals with cerebral palsy have problems with social interaction, such as communication and feeding or swallowing. This highlights the importance of a Speech-Language Therapist's role in providing appropriate intervention in the transition period as well as in the work place.

7. Communication in the Work Place

Communication is the act of sending and receiving a message from one person to another (Weiten, Dunn, & Hammer, 2011). Communication is a multimodal process involving the integration of a variety of means, depending on communication intents, environments, and partners (Williams, Krezman, & McNaughton, 2008). Thus for communication to exist efficiently in the work place, it would be reliant on the individual with cerebral palsy as well as their colleagues.

Communication in the work place is critical to employment success and many individuals with cerebral palsy have difficulties with this (McDermott et al., 2007). Adults with cerebral palsy whose speech is difficult to understand, or who use AAC, may find that communication is difficult to maintain as the communication partner may have insufficient training in facilitating communication (McVilly, 1997). Ballin and Balandin (2007) stated that adults with cerebral palsy must be given the opportunity to form relationships which can be facilitated by ensuring that these individuals with cerebral palsy have adequate and appropriate communication systems to support social interactions as well as to nurture the development of social contact with the communication partner which, for the purpose of this study, is the colleagues. This point further illustrates the importance of relationships and communication in the work place.

In a study by McNaughton et al. (2002) most individuals with cerebral palsy working full time described their relationships with the colleagues as positive, however, a smaller percentage of the study experienced negativity in the colleague relationships. This included attitudinal barriers whereby colleagues had a negative attitude towards people with disabilities and would stereotype all individuals with cerebral palsy as having an intellectual disability based on their physical appearance or slurred speech (McNaughton et al., 2002). Other barriers that individuals with full time employment who have cerebral palsy faced were

educational barriers and societal barriers. Participants in this study felt that society had low expectations of individuals with cerebral palsy (McNaughton et al., 2002). Participants also felt that there was a breakdown in general communication with colleagues, especially those who made use of AAC devices as there was a lack of spontaneity in conversations (McNaughton et al., 2002). Participants in this study also noted the importance of work place support from colleagues and employers and how social interactions improve their network of communication (McNaughton et al., 2002).

“The essential ingredients that support successful aging for adults with developmental disabilities are health status, perceived life satisfaction, and the opportunity to be a contributing member of society” (Hawkins, 1999, p. 99). It is clear that communication underpins these factors however, many individuals with cerebral palsy have difficulties with communication (Stanton, 2012) which can limit their participation and integration into daily life. Maximising communication for individuals with complex communication needs must be our end goal (Light & McNaughton, 2013). This can be achieved through eliminating communication barriers which will ensure effective communication.

8. Speech-Language Therapy for Adults with Cerebral Palsy

A Speech-Language Therapist forms part of the multidisciplinary team that is involved in the management of cerebral palsy (Workinger, 2005). A Speech-Language Therapist's role in the management of an individual with cerebral palsy will vary from person to person due to the wide variety of characteristics and severity level in individuals with cerebral palsy. A Speech-Language Therapist will assess, diagnose, and treat the communication and swallowing disorders associated with cerebral palsy (Pennington et al., 2005). A Speech-Language Therapist will assess all aspects of communication such as the speech sub-systems (resonance, phonation, articulation, and respiration), language components (receptive language, expressive language, and pragmatics), and the swallowing

sub-systems (oral preparation, oral stage, pharyngeal stage, oesophageal stage) (Hidecker, 2013). The Speech-Language Therapist may also look at the individual with cerebral palsy's participation in various contexts such as in the home, at school or work, and in the community, as well as the people that the individual with cerebral palsy will interact with (Hidecker, 2013). It is usual for Speech-Language Therapists to liaise with families regarding therapy to ensure that goals are incorporated into daily life (Pennington et al., 2005).

Hidecker (2013) stated that it is important for Speech-Language Therapists to consider including adults with cerebral palsy and their family members in intervention. This form of indirect therapy aims to facilitate communication by creating opportunities so that new skills can be used in conversation thus leading to changes in conversation style (Pennington et al., 2005). A study by Majnemeer et al. (2013) conducted in Canada, found that Speech-Language Therapy for adolescents and adults was more likely to be consultative rather than direct therapy. It was also stated that most adolescents and adults are not receiving Speech-Language Therapy once they leave school and thus little is known about Speech-Language Therapy services for adults with cerebral palsy (Majnemeer et al., 2013).

A similar study conducted on adults with Down syndrome in KwaZulu-Natal found that poor communication skills in the work place impacted on relationships with colleagues (Tod, 2013). Communication breakdowns were also a common occurrence in the work place and repair techniques were adopted in order to maintain a conversation (Tod, 2013). A Speech-Language Therapist has been identified as an important member of a multidisciplinary team vital to future employment of individuals with cerebral palsy (Vogle, 2013).

Summary of Chapter

Chapter two described the various cerebral palsy characteristics, with particular regard to speech, language, and literacy strengths and weaknesses, as well as feeding and swallowing, were discussed in detail to draw focus to these areas. The schooling period and the transition from school to employment was described to facilitate an understanding of the journey that the individual with cerebral palsy embarks on in order to gain employment. The main theme of this research study, employment and related aspects, was then highlighted. Relevant South African legislation pertaining to the employment of individuals with disabilities was reviewed along with the rate of employment of individuals with disabilities which indicated that legislature is not always enforced. The role of employment in the lives of individuals with cerebral palsy and the importance of communication in the work place was reviewed.

Chapter Three: Research Methodology

This chapter presents a detailed description of the methods and procedures that were utilized in the study. The aim, objectives, study design, data collection method, data collection instrument, method of analysis and explanations for these are discussed. Reliability and trustworthiness, as well as ethical considerations, with regard to data collection methods and instruments are reviewed.

1. Aim

To explore the employment experiences of individuals with cerebral palsy, who have a communication difficulty¹, and their colleagues.

2. Objectives

The objectives of the study were as follows:

- 2.1. To explore communication used in the work place from the perspective of the individual with cerebral palsy and a colleague of each
- 2.2. To explore feeding or swallowing from the perspective of the individual with cerebral palsy and a colleague of each
- 2.3. To explore the social interaction between the individual with cerebral palsy and their colleagues in the work place
- 2.4. To explore the job description of the individual with cerebral palsy
- 2.5. To explore the therapeutic and vocational support provided to the individual with cerebral palsy prior to employment
- 2.6. To explore the opportunities and challenges that employment provides for the individual with cerebral palsy

¹ A communication difficulty, in the case of this study, can refer to any speech and/or language disorder that interrupts the sending and receiving of a message.

- 2.7. To explore the strategies or adaptations developed to overcome challenges that the individual with cerebral palsy faces in the work place
- 2.8. To explore the colleague's understanding of cerebral palsy and adaptations made by the employer to support employees with cerebral palsy in the work place.

3. Research Approach and Design

A research approach and design allows for gathering data which is accurate and valid, which seeks to answer the research question (Leedy & Ormrod, 2013). A qualitative approach was utilized in this study. Qualitative research was chosen as it is a holistic approach that enables a researcher to gain valuable information in Speech-Language Pathology (Hammer, 2011). This approach enabled the researcher to gain in-depth information of the topic by looking at perspectives of a certain group of individuals (Creswell, 2003). By utilizing qualitative research the participants were able to express themselves freely which enriched the data that was obtained (Leedy & Ormrod, 2013). Qualitative research enabled the researcher to precisely reflect the reported work place experiences of individuals with cerebral palsy and their colleagues.

A phenomenological design was used in this study. The purpose of a phenomenological study is to understand an experience and describe it from an individual's point of view (Leedy & Ormrod, 2013). A phenomenological design allows the researcher to explore lived experiences from the viewpoint of a group of individuals (Creswell, 2003). The participants' personal experiences are then analysed to answer the research objectives (Leedy & Ormrod, 2013). This method is in line with the International Classification of Functioning and Disability (ICF) (World Health Organisation, 2001) that was used as a framework for this study whereby the individual's views are recognised in order to aid intervention planning (Borrell-Carrio, Suchman, & Epstein, 2004). This design was appropriate for this study as it

documented the employment experiences of individuals with cerebral palsy and their colleagues.

4. Participants

4.1. Study population

The study population is “a group of individuals with some common defining characteristic that the researcher can identify and study” (Creswell, 2003, p. 152). The participants for this study were individuals with cerebral palsy and their colleagues. This study consisted of two categories of individuals, namely the individuals with cerebral palsy who were employed and a colleague of each of theirs. These two categories were chosen as they are the individuals that have the most exposure to cerebral palsy in the work place.

4.2. Sampling technique

Sampling is the process of selecting a portion of a population (De Vos, 2005) in order to gain the required information. Purposive sampling is the most common sampling method used in phenomenological research (Brink, van der Walt, & van Rensburg, 2012) and was the chosen method of sampling for this study. Purposive sampling enabled participants to be selected who would allow the researcher to gain specific information from a certain population group and about the research objectives (Creswell, 2003). Purposive sampling was used in this study as it enabled the researcher to deliberately select participants who fitted the criteria for the study and thus provided the researcher with the needed information. Snowball sampling was also utilized where participants directed the researcher to other possible participants (Trochim, 2006). This form of sampling is useful for accessing small or difficult to access populations (Trochim, 2006), as was the case in this study.

Participants for this study were recruited by contacting cerebral palsy associations and associations working with individuals with disabilities in KwaZulu-Natal in order to obtain a

list of individuals with cerebral palsy who are employed (Appendix A), by contacting schools for individuals with disabilities, by contacting health professionals working with individuals with cerebral palsy, by contacting recruitment agencies who specialise in the placement of individuals with disabilities, by placing advertisements in newsletters or on social media, and via word of mouth. Altogether six associations, two recruitment agencies who specialise in the placement of individuals with disabilities, five schools for individuals with disabilities, 18 health professionals who provide intervention for individuals with cerebral palsy, and 23 individuals with cerebral palsy were contacted.

Due to the heterogeneity of cerebral palsy, the researcher chose to select certain participants for this study in order to obtain a study population with maximum variation of characteristics in terms of gender, race, age, language, type of employment, type and severity of cerebral palsy, and type of communication. The aim of maximum variation is for heterogeneity and it can be used for researchers to understand how a phenomenon is seen and understood amongst different people and in different contexts (Seidman, 2015). The researcher selects a small number of participants that maximise the diversity relevant to the research objectives (Seidman, 2015). This information was obtained beforehand from the biographical questionnaire that was completed by all participants who were willing to participate in the study (Appendices B, C, D and E).

4.3. Sample size

A phenomenological study design typically consists of a minimum of five and a maximum of fifteen participants (Leedy & Ormrod, 2013). Such a small sample size should be utilized in order to gain rich, in-depth data and insight into the phenomenon being researched (Patton, 2002). One potential participant with cerebral palsy was unable to participate as the individual did not meet the employment criteria. Two individuals with

cerebral palsy were unable to participate due to health issues. One individual with cerebral palsy met the selection criteria but was unable to participate due to practical constraints. Therefore, the sample consisted of 12 participants, six were individuals with cerebral palsy and six were colleagues. This was the total number of individuals who volunteered to participate and met the criteria of the study.

4.4. Participant selection

Specific selection criteria were used to select participants for each of the two categories of participants. Criteria for the individuals with cerebral palsy included a range of types of cerebral palsy, topographies of cerebral palsy, and communication difficulties, as well as various types of employment to ensure maximum variation. The selection criteria for each category are presented in Tables 3 and 4 below.

Table 3

Selection Criteria for Individuals with Cerebral Palsy

Number	Selection criteria and motivation
1	The participant had to have a diagnosis of cerebral palsy as the study focused specifically on the employment experiences of those with cerebral palsy.
2	The participant could not have any of the following co-occurring conditions: moderate to severe hearing loss, moderate to severe visual impairments, and intellectual disability. This ensured that the researcher obtained information based primarily on the cerebral palsy and not for other conditions, for example a participant with cerebral palsy who had a severe hearing loss would have experiences in the work place pertaining to cerebral palsy as well as the hearing loss, and may require support for that.
3	The participant had to have a communication difficulty associated with cerebral palsy, such as dysarthria, and/or a feeding or swallowing disorder, as these are the main areas of focus for Speech-Language Therapy (Levitt, 2013).
4	The participant had to have a literacy level of at least Grade 9 in order to

	competently complete documents and informed consent prior to the study. This also helped to ensure that the participant understood the nature of the research study and what was expected of him/her. Grade 9 is the average literacy level in South Africa (Statistics South Africa, 2011).
5	The participant had to be over the age of 18 years as this is the age that an individual is viewed as an adult in South Africa (South African Government Information, 2009).
6	The participant had to be employed in full-time competitive employment, i.e. not sheltered employment and for at least 20 hours per week. Competitive employment is employment that has equal terms for people with and without disabilities (Michelsen et al., 2005). Full-time competitive employment ensured that the participant did not receive ongoing support and assistance of trained professionals in the work place (Riddick-Grisham & Deming, 2011) .
7	The participant must have been employed in their current job for at least 6 months so that adequate experiences in that context can be reflected on.
8	The participant had to communicate in either English or isiZulu as these are the dominant languages in KwaZulu-Natal where the study took place (Statistics South Africa, 2011).

Table 4

Selection Criteria for Colleagues

Number	Selection criteria and motivation
1	The colleague (a person, including family, who worked with the individual with cerebral palsy, either on a day to day basis or in the same organisation) had to be employed for a minimum of 6 months in the same section as the person with cerebral palsy as this ensured that they had gained adequate experience working with the individual with cerebral palsy.
2	The colleague had to have direct contact with the individual with cerebral palsy at least once a week as this ensured that the colleague was familiar with the work skills and social interactions of the individual with cerebral palsy.
3	The colleague had to converse in either English or isiZulu as these are the dominant languages in KwaZulu-Natal where the study took place (Statistics

4.5. Description of participants

Each participant was supplied with an information letter, a letter of informed consent, and a biographical questionnaire (Appendices B, C, D and E). The biographical questionnaire was used to determine the eligibility of the participants with regard to selection criteria. Only individuals who completed the consent document and biographical questionnaire were considered for the study. These documents were also used to ensure maximum variation of participants prior to selection. Altogether six individuals with cerebral palsy and six colleagues were interviewed. The coding of participants is listed in Table 5.

Table 5

Coding of Participants

Number	Individual with cerebral palsy	Colleague
Pilot study	PS1 ²	PS2
1	P1	WC1
2	P2	WC2
3	P3	WC3
4	P4	WC4
5	P5	WC5
6	P6	WC6

This study comprised of six individuals with cerebral palsy, four males and two females. The age range of the participants was from 23 years to 38 years. Three participants

² Key for Abbreviations

PS: Pilot Study Participant

P: Participant with Cerebral Palsy

WC: Participant who is a Work Colleague

had spastic cerebral palsy (P1, P5 and P6), two participants had athetoid cerebral palsy (P2 and P4) and one participant had ataxic cerebral palsy (P3). Three quadriplegic participants used wheelchairs (P1, P2 and P4) and the other three hemiplegic participants were mobile (P3, P5 and P6). Five of the individuals with cerebral palsy were first language English speakers and one individual was a first language isiZulu speaker (P5). All participants had difficulty with speech at varying levels; five participants presented with dysarthria with different levels of severity, one of which presented with little functional speech due to severe dysarthria and used an alternative and augmentative communication (AAC) system (P4), and one participant presented with mild articulation difficulties. Four participants had difficulties with feeding/swallowing; this included physical difficulty manipulating utensils (P1 and P3) and two participants who were unable to self-feed (P2 and P5).

All participants worked full-time with a minimum of 30 hours per week. One participant (P2) was self-employed in one business and employed in another job. All participants were paid in competitive employment. Three of the participants required various support while working in the form of a caregiver to assist them throughout the day. The caregivers assisted with activities of daily living such as using the toilet, feeding, moving around the office, but did not assist with work related tasks. One participant was self-employed, four participants were employed, and one participant had a combination of employment and self-employment. Job types included a communications manager, graphic designer, coach for disabled sport, administrative position, information technology (IT), customer service and an educator. All participants were required to use either a phone or a computer/laptop as part of their employment. Three participants relied on others for transport to work, two participants drive themselves and one participant uses public transport.

Four of the participants completed grade 12, one participant completed grade 11, and one participant completed primary school and then went on to prevocational class. Three participants completed certificates after school and one participant completed two degrees. Five of the participants received Speech-Language Therapy, Occupational Therapy and Physiotherapy, whilst the remaining participant only received Physiotherapy. The description of the participants is summarised in Table 6.

Table 6

Description of Participants with Cerebral Palsy

Participant	P1	P2	P3	P4	P5	P6
Gender	Male	Male	Female	Male	Male	Female
Age (years)	25	23	30	29	23	38
CP type	Spastic	Athetoid	Ataxic	Athetoid	Spastic	Spastic
Topography ³	Quad	Quad	Right hemi	Quad	Right hemi	Right hemi
	GMFCS ⁴ IV	GMFCS V	GMFCS II	GMFCS IV	GMFCS II	GMFCS II
Mobility ⁵	W/chair	W/chair	Mobile	W/chair	Mobile	Mobile
Language	English and Afrikaans	English	English	English	isiZulu and English	English
Speech difficulties	Spastic Dysarthria	Athetoid Dysarthria	Ataxic Dysarthria	Athetoid Dysarthria Little functional speech AAC	Spastic Dysarthria	Mild articulation difficulties
Feeding/swallowing difficulties	Difficulty with utensils	Unable to self-feed	Slight difficulty with utensils	Unable to self-feed	None	None
Job title/description	Communications manager	Graphic designer - Coach for disabled sport	Admin	Information technology (IT)	Customer services	Educator

³ **Topography Abbreviations**

Quad: Quadriplegia

Hemi: Hemiplegia

⁴ **GMFCS:** Gross Motor Classification System (numbered according to level)

⁵ **W/chair:** Wheelchair

Employment sector	Private	Private (Self-employed)	Private	Private (Self-employed)	Private	Private
	Government					
Participant	P1	P2	P3	P4	P5	P6
Working hours per week (hours)	45	30	45	45	45	40
Length of employment	2 years	4 years - 6 months	15 years	4 years	3 years	9 years
How job was found	Met employer in previous job	Self-creation - Played sport	Applied with CV	Self-creation	Applied with CV	Recommended by previous employer
Technology usage	Computer, laptop, smartphone	Computer, laptop, smartphone	Computer, laptop, smartphone	Computer, laptop, smartphone, tablet	Computer, smartphone	Computer, laptop, smartphone
Transport to work	Cousin	Driver or mother	Drives a car	Works from home	Public transport	Drives a car
Education/ Tertiary level	Grade 12 Journalism certificate	Grade 12 Graphic design and web design certificates	Grade 12 Hospitality certificate	Grade 11	Grade 7 Special class Prevocational class	Grade 12 BSc B. Ed.
Intervention ⁶	ST – grade 5	ST – grade 7	ST – grade 2	ST – grade 6	ST – grade 7	PT – 22 years
ST	OT – grade 5	7	2	6	OT – grade 7	
OT	PT – grade 12	OT – grade 7	OT – grade 2	OT – grade 6	PT – grade 7	
PT		PT – ongoing	PT – grade 7	PT – Grade 12		
- Termination of therapy						

Six colleagues participated in this study. All colleagues were females with an age range from 27 years to 52 years. Four of the colleagues spoke English and two colleagues spoke English and Afrikaans. Two colleagues were family members, two were colleagues and two were supervisors. The description of colleagues is illustrated in Table 7.

⁶ **Key for Abbreviations**
ST: Speech-Language Therapy
OT: Occupational Therapy
PT: Physiotherapy

Table 7

Description of Colleague Participants

Participant	Gender	Age (years)	Language	Job title	Time spent interacting with individual with CP (hours per week)	Relationship to individual with CP
WC1	Female	27	English and Afrikaans	Community Representative	4	Colleague
WC2	Female	57	English	Educator	4	Mother
WC3	Female	33	English	Head of department	40	Supervisor
WC4	Female	35	English	Admin	12	Sister
WC5	Female	46	English and Afrikaans	Manager	40	Supervisor
WC6	Female	52	English	Educator	40	Colleague

5. Data Collection Methods

For data collection, all documents were provided in English and isiZulu depending on participants' preferred choice of language. English and isiZulu were chosen as the two languages of the study as these are the predominant languages of the province in which the study was conducted (Statistics South Africa, 2011). Selected individuals with cerebral palsy and a colleague were each sent an information letter, a letter of informed consent, and a biographical questionnaire via fax or email prior to the interview.

The information letter provided a brief overview of the research study and requested the participant to complete the letter of informed consent and the biographical questionnaire, and

then return these documents to the researcher via fax or email. All letters were written at a grade 9 level as this is the average highest level of education in South Africa (Statistics South Africa, 2011).

Data for the individuals with cerebral palsy and a colleague of each of theirs was gathered through individual semi-structured interviews. Interviews are the dominant method for collecting data in qualitative research (King & Horrocks, 2010). The aim of an individual interview is to view the “topic from the perspective of the interviewee, and to understand how and why they come to have this perspective” (King, 2005, p. 11). In order to best achieve the individual’s perspectives the interview was divided into three stages: an introduction or briefing, the main part of the interview where the data was gathered and a closing or debriefing (Neuman, 2002). During the briefing period the researcher began by reminding the participant of the aim of the study and the interview, and assured confidentiality of both the participant and place of work. Open-ended questions were used, with additional prompts, to gather the data in order to allow the participant to provide as much information as they wanted to (King & Horrocks, 2010). The prompts were necessary in the case the question was misinterpreted or to acquire further detail (Leedy & Ormrod, 2013). Each interview ended with the researcher thanking the participant and indicating that the research would be made available should the participant request it.

All participants were given the option on their biographical questionnaire of interviewing in either English, or in isiZulu with the use of an interpreter. English was the preferred medium for all participants, including the participant whose first language was isiZulu. This participant reported that this was due to his schooling being in English and because he felt more comfortable reading, writing and conversing about certain topics in English.

The interviews were held on a date and time specified by the participants at a venue that was convenient for them. This was to ensure that the participants felt comfortable when being interviewed. A venue that was quiet was requested in order to ensure that it was conducive to conducting the interview and recording the data. The interviews were roughly one hour in order to best understand and interpret the participants' experiences (Creswell, 2003). Two interviews, one with an individual with cerebral palsy and one with a colleague, were done via a Skype session. This was done due to practical reasons for the individuals involved. The Skype interview conducted with the individual with cerebral palsy was typed out by the participant and questions were asked verbally by the researcher.

The researcher obtained permission from each participant with cerebral palsy to video and audio record the interview. The researcher ensured that the video recorder was placed at an angle that the participant felt comfortable with. This was to ensure that the recording devices are unobtrusive for the interviewer and interviewees (Leedy & Ormrod, 2013). Individuals with cerebral palsy in this study had communication difficulties and were difficult to understand at times, thus video recording was used to observe mouth movements and body language, in addition to the audio recorder when analysing data. Colleagues were only audio recorded. Video recordings were recorded using a Canon SX 400 IS on a tripod and audio recordings were recorded with the use of a Samsung smartphone. Both devices were set to high quality. Field notes were kept by the researcher during the interviewing process. Field notes assisted the researcher in identifying her own assumptions and thus eliminated bias from the interviews (King & Horrocks, 2010). The type of information that was written down depended on what the researcher observed.

6. Data Collection Instruments

The data collection instruments for the study were two interview schedules, one for each category of participant (Appendices F, G, H and I). These documents, although not utilized,

were available in isiZulu to assist the interpreter whilst interviewing participants who were first language isiZulu speakers. The isiZulu documents were translated by a Speech-Language Therapist who was also a first language isiZulu speaker. The interview schedule consisted of main questions and probes to assist the researcher to gather the information needed.

An interview schedule is helpful for outlining topics that will be introduced and discussed in interviews. The interview schedule consisted of topics that the researcher wished to explore. Questions included in the interview schedules were adapted from Tod (2013). All the questions were open-ended to allow the participant to say as little or as much as they pleased. Sections included in the individual interviews for the participant with cerebral palsy including education and therapeutic history, employment history, job description, perceptions of self in the work place, communication and social interaction in the work place, feeding and swallowing disorders, adaptations in the work place, and challenges and opportunities in the work place are presented in Table 8. Sections included in the interviews for their colleague including understanding of cerebral palsy, perceptions of others in the work place, job description, and communication and social interaction in the work place are tabulated in Table 9.

Table 8

Sections included in the Individual Interviews for Individuals with Cerebral Palsy and Motivations

Number	Section	Motivation
1	Educational and therapeutic history	It was crucial to enquire about educational history as it established the vocational support the individual with cerebral palsy received. Both of these areas are important predictors of success in employment (Tod, 2013). The

		educational and therapeutic history assisted the researcher in determining the role of vocational intervention and the skills required to transition from school to employment. It is also important for the Speech-Language Therapist to determine if or when Speech-Language Therapy took place as it can improve various aspects of communication (Gillam et al., 2011).
2	Employment history	It is important to understand information on previous employment if available, how the person with cerebral palsy found their job, challenges they faced when starting their job, and how they overcame these challenges.
3	Job description	The type of job that the individual with cerebral palsy was required to perform enabled the researcher to understand the kind of tasks that each participant performs as well as what types of assistance was required by the participant to enable them to perform the task. The use of technology (for example laptops, computers, telephones, etc.) was explored to determine the roles and technology usage of individuals with cerebral palsy in the work place.
4	Perceptions of self in the work place	It is important to view how individuals with cerebral palsy perceive themselves as a contributing part of their employment, as well as how they perceive their colleagues to view them. This view is important as it can affect job satisfaction and self-esteem (Gagne, 2014).
5	Communication and social interaction in the work place	An individual with cerebral palsy can have difficulties communicating as they may have co-occurring speech and language difficulties (Gillam et al., 2011; McDermott et al., 2007). This can impact on their ability to ask a question, have a conversation, or interact with others in social situations. Social interaction is the basis for success in the work place (Schall, 2010).
6	Feeding and swallowing disorders	Individuals with cerebral palsy may also experience difficulties such as eating at lunch time or drinking tea

		with a colleague, as they may have associated dysphagia (Gillam et al., 2011). This can impact on the social relationships that the individual with cerebral palsy develops with their colleagues. It can also influence the individual with cerebral palsy's ability to maintain adequate levels of hydration and nutrition (Haak et al., 2009) which can affect work performance.
7	Adaptations in the work place	Adaptations in the work place will ensure that the individual with cerebral palsy is not discriminated against and that they can perform their job at an optimal level (De Jonge, Scherer, & Rodger, 2007). The individual with cerebral palsy is a vital informant to determine whether the necessary adaptations are in place and if so, how useful they are.
8	Challenges and opportunities in the work place	It is important to note the challenges and opportunities that the individual with cerebral palsy faces in the work place as it can be valuable to other individuals with disabilities in obtaining work.

Table 9

Sections included in the Interviews for the Individuals with Cerebral Palsy's Colleague and Motivations

Number	Section	Motivation
1	Understanding of cerebral palsy	It is important to recognise the colleagues' understanding of cerebral palsy as it could influence the rights of the person with cerebral palsy and cause discrimination in the work place. It could also impact on the social interaction with the person with cerebral palsy (Dipboye & Colella, 2004).

2	Perceptions of others in the work place	The perceptions of others in the work place will directly link to the individual's understanding of cerebral palsy (Geisen & Harder, 2011). This will influence the way colleagues interact with the individual with cerebral palsy and aid in determining job satisfaction.
3	Job description	A central factor was to explore the reasoning behind description of employment tasks given to the individual with cerebral palsy.
4	Communication and social interaction in the work place	It was important to understand the level of social interaction that occurs in the work place and how comfortable the colleagues felt with any interaction that took place. Compensatory strategies used were discussed in order to gain an understanding of how colleagues overcome barriers that they may face.

7. Pilot Study

A pilot study is a version of the main study on a smaller scale (Maxwell, 2004). Conducting a pilot study enabled the researcher to make any necessary changes to the documents or interview schedule before the main study took place (Leedy & Ormrod, 2013). Pilot studies are a crucial element of a good study design as they fulfil a range of important functions and can provide valuable insight for other researchers (van Teijlingen & Hundley, 2002). The reliability of the data collection instrument is strengthened if it is administered to participants, who met the selection criteria of the study, prior to data collection so that the instrument may be edited if necessary (Leedy & Ormrod, 2013).

The pilot study participants followed the same procedure as the individuals in the main study but were asked additional questions at the end of the interview in which they reviewed and provided feedback on the types of questions asked. This aided in identifying if the participants understood the types of questions asked and then changes were made for the

main study (Evans, 2007). In an interview format it is “very common that the pilot study reveals the need to make adjustments to either the instructions, questions, or recording devices” (Evans, 2007, p. 190).

The consent forms, biographical questionnaire and interview schedules were piloted with each of the two categories of participants. Due to the small population of individuals with cerebral palsy who are employed in KwaZulu-Natal, the participant chosen met all the criteria but lived in a different province. The pilot study interviews were conducted on a date, time, and at a venue convenient to each of the pilot study participants. Table 10 below describes the participants of the pilot study.

Table 10

Description of Pilot Study Participants

Type of participant	Gender	Age	Type of Employment	Language	Venue
Individual with cerebral palsy	Male	36	Administration	English	Participant’s home
Colleague	Female	62	Business Owner	English	Participant’s home

The researcher asked the participants about the nature of the questions, phrasing of the questions, lay out of the questions, the participant’s understanding of the questions, the tone used in asking the questions and the length of the interview. Changes made to the data collection instrument and the manner of interviewing were based on a review of the video and audio recordings and feedback from the participants. These changes are tabulated in Table 11.

Table 11

Description of changes made following the Pilot Study

Area of focus	Feedback from pilot participant and from researcher	Action taken
Consent and biographical questionnaire forms	The participants indicated that these forms were easy to understand. The individual with cerebral palsy had difficulty completing the form as he only typed.	The biographical questionnaire forms were sent to potential participants as a hard copy, and in a Word Document so that participants could type their answers and email them back, if this was the preferred method.
Quality of audio and video recording	The noise of the television and people in the background affected the quality of sound in the recordings.	The level of background noise needed to be checked and adapted at the beginning of each interview. The researcher also requested for a quieter environment.
Length of interview	The participants indicated that they were happy with the length of interview and that it was what they expected based on the information document.	No changes were necessary.
Questions in data collection instrument	The participants stated that they saw the relevance in all the questions that they were asked.	No changes were necessary.
Wording of questions in data collection instrument	The researcher noticed some confusion with some questions.	The wording on some questions was edited on the data collection instrument (see Tables 12 and 13).

Researcher's manner during interview	The participants stated that they found the researcher's manner professional.	No changes were necessary.
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The interview schedules were edited in order to provide the participant with a clearer understanding of the questions. The question changes made to the two interview schedules are summarized in Tables 12 and 13.

Table 12

Summary of changes made to Interview Schedule: Individual with Cerebral Palsy

Type of change made	Questions that were changed
Questions reworded for clarity or accuracy of information elicited	2.3, 2.7, 3.3, 4.4, 6.4, 7.1, 8.1
Questions added	2.6, 5.4
Questions omitted	1.1, 5.4, 9.4
Probe questions added	4.4, 5.1, 6.4, 7.1, 9.1
Probe questions omitted	5.1, 9.1

Table 13

Summary of changes made to Interview Schedule: Colleague

Type of change made	Questions that were changed
Questions reworded for clarity or accuracy of information elicited	4.2, 4.4, the two concluding questions
Questions added	-
Questions omitted	-
Probe questions added	3.5
Probe questions omitted	-

8. Data Analysis

Data analysis was continuous until saturation was reached, which occurred when sufficient data was present and no new themes emerged in analysis (Cohen & Crabtree, 2006). Data analysis occurred concomitantly with data collection (Dicicco-Bloom & Crabtree, 2006) as it was an ongoing process of reflecting on data, asking questions of an analytical nature, and writing notes throughout the study (Creswell, 2003). The data analysis process involved “preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the data” (Creswell, 2003, p. 190).

Datum was analysed using the data analysis spiral by Creswell (2003). This included beginning by gathering the data, then managing the data (the importance of writing, reading, reflecting, and memo-ing), and then describing, classifying, interpreting, categorizing, and comparing, and lastly representing and visualizing the data (Creswell, 2003). A summary of the steps of the data analysis spiral are outlined in the Table 14.

Table 14

Steps in the Data Analysis Spiral adapted from Creswell (2003)

Step	Process of data analysis
Step one: Raw data	Audio and video recordings
Step two: Organization	Creating and organising the files for data management
Step three: Perusal	Reading through the text, making margin notes, and forming initial codes
Step four: Classification	Describing personal experiences or the essence of the phenomenon
Step five: Synthesis	Interpreting the data by forming connections between themes
Step six: Final report	Representation of themes comparing to literature and trends in previous studies

This data analysis process involved working through the raw data in a systematic fashion whilst constantly returning to the data in order to gain depth and insight as opposed to working through the data in a linear manner (Creswell, 2003). Data management first took place by organising and preparing raw data to make it more manageable before breaking it down to gather content (Creswell, 2003). The raw data in this study were a series of audio and video recordings which were organised into a filing system on a computer.

Once the data were organised the researcher familiarised herself with the data by transcribing the data verbatim and reading and re-reading the data (Braun & Clarke, 2006). The researcher then began to take note of emerging themes (Creswell, 2003). Themes are generalised statements people make about their beliefs, attitudes, or sentiments (Luborsky, 1994). The data was then classified by developing statements and grouping these statements into meaningful units, thus sections of data was categorized with other data representing a similar thought (Creswell, 2003). This process of reducing the information into themes ensured that the data became more workable and aided the researcher in finding meaning in the content (Creswell, 2003). A theme links numerous areas of concern. Ongoing analysis of the data was done to refine the specifics of each theme, such as generating clear definition and names for each theme (Braun & Clarke, 2006). Data was then synthesized whereby the researcher drew connections between themes (Creswell, 2003). Themes or categories of data were reported on according to the results obtained from data collection.

No more than 25 to 30 categories of information should be used in order to facilitate ease of interpretation (Creswell, 2003). The final report for this study was compiled as a representation of themes identified from the data analysis (Creswell, 2003) and is described and compared to literature and trends in previous studies.

9. Issues of Reliability and Trustworthiness

Reliability is the extent to which research results in consistency or repeatability of data captured (Berg & Latin, 2004). Reliability is often associated with quantitative research which involves testing, however it is also a vital part of qualitative research (Merriam, 2009). Testing a hypothesis in quantitative research is equivalent to eliciting the data in qualitative research (Golafshani, 2003). The reliability of the research in qualitative research can be determined by the quality of the data that is collected (Golafshani, 2003). Thus reliability is used to describe outcomes of the study that are achieved if the study were to be repeated (Neuman, 2002).

Various methods used ensured the reliability of this study. The information documents, consisting of the information letter, consent form and biographical questionnaire, were written at grade 9 level as this is the average age of education in South Africa (Statistics South Africa, 2011). This allowed for the participants' understanding of the aim of the research and what was required of them. All information documentation and interviews were provided in English or isiZulu (as these are the dominant languages of KwaZulu-Natal (Statistics South Africa, 2011)) and ensured that the participants were interviewed in a language they felt comfortable with, thus enhancing the reliability of the research findings (Leedy & Ormrod, 2013). The data collection instrument that was used was based on current literature to ensure that all the relevant information was included. The information documents and the data collection instruments were piloted to strengthen the reliability of the documents and the results that the data collection instruments yielded (Maxwell, 2004).

The researcher ensured that the manner and tone in which questions were presented to participants remained consistent in both the pilot study and interviews of the main study. This was important as it guaranteed that each participant had the same experience of the data collection instrument and data collection method (Golafshani, 2003).

Trustworthiness is a term used specifically in qualitative research and encompasses the values of credibility, transferability, confirmability, and dependability (Creswell, 2003; Lincoln & Guba, 1985). Various methods were employed to ensure the trustworthiness of this study.

Credibility in a research study ensures that the study measures what it is intended to measure (Merriam, 2009), thus credibility ensures that the results obtained are an accurate reflection of what was gathered from the information supplied by the participants. The credibility of the study depends on the efforts and abilities of the researcher (Golafshani, 2003). Credibility in this study was ensured by utilizing specific procedures or methods that have been successfully utilized in comparable studies (Yin, 2011). Lincoln and Guba (1985) suggest that prolonged engagement between the researcher and the participant be used to ensure the credibility of the study and thus the researcher chose to conduct the interviews for one hour. This was achieved by contacting the individual with cerebral palsy telephonically, gaining the required information beforehand in order to facilitate a better understanding of the participant, and allowing a semi-structured interview whereby the participant was able to provide his/her experiences giving as little or as much as he/she felt comfortable with.

Using these methods enabled the researcher to establish a relationship with the participant in order to gather the data (Shenton, 2004). Shenton (2004) recommended that increasing the credibility of the study can be done by using tactics to ensure that participants are honest. Each individual approached in this study was able to refuse to participate in order to guarantee that the data collection sessions involved only those who wished to participate and were prepared to offer data freely (Shenton, 2004). This was further encouraged by prolonged engagement with the participant, ensuring that rapport was established, and by indicating that there was no right or wrong answer to the questions that were asked. This enabled the participants to contribute ideas and talk of their experiences (Shenton, 2004).

Transferability is the “extent to which the findings can be transferred to other situations” (Merriam, 2009, p. 39). This study used participants with a variety of characteristics and a range of severities in order to ensure that the findings can be transferred to a wider adult cerebral palsy population. Confirmability was important in this study as it is the ability to ensure that the findings of the study are the actual experiences of the participants and thus the researcher aimed to not lead the participants with any bias, and equal views were extracted (Obiakor, Bakken, & Rotatori, 2010). Confirmability was assured by gathering data from numerous participants and a colleague of each of theirs. The researcher did not influence or make assumptions based on the participants’ answers and was guided by the interview schedule. The findings were presented as accurately as possible without changing the intended meaning of the responses.

Dependability refers to the process of data collection, integration and analysis (Lincoln & Guba, 1985). All participants selected for this study met the selection criteria which increased the authenticity of their contribution towards the study. The researcher clarified important information with the participant throughout the interview to ensure that all information transferred between researcher and participant, and participant and researcher, was correctly understood. This was especially important for the participants with cerebral palsy as they may have had a communication difficulty which could have led to a breakdown of communication. All interviews were transcribed precisely so as to accurately represent the participant’s views. Field notes were also kept during the pilot study and the interviews. This assisted in keeping a record of events during the interviews (Mullhall, 2003).

10. Ethical Considerations

An important part of the research process which must be adhered to is ethics. Ethical principles are the values and morals that are followed to prevent any form of harm to participants (Leedy & Ormrod, 2013). The researcher completed an online course to gain an

understanding in ethical principles and values (Appendix J). Ethical clearance for this study was obtained from the University of KwaZulu-Natal Biomedical Research and Ethics Committee (BREC reference number: BE030/15, Appendix K). This is in accordance with the Health Professions Council of South Africa (2008).

Each possible participant in this study received information documents pertaining to the relevant details of the study, an informed consent letter, and a biographical questionnaire (Appendices B, C, D and E). These were made available in either English or isiZulu, depending on the participant's language of preference. The three documents (information document, consent form and biographical questionnaire) were compiled as individual documents and were on separate pages. The information document provided the participants with details pertaining to the nature of the study, an explanation of their voluntary involvement, specified the use of an audio and video recorder in the interview, notified that the data will be kept for five years and then destroyed, and assured confidentiality (Health Professions Council of South Africa, 2008). The letter further illustrated the benefits of the study as well as the fact that participation in the study would not result in employment, a change in employment status or an increase in income in order to falsely increase the hopes of the individuals with cerebral palsy. The letter instructed the participants to retain the original copy of the letter, signed consent and biographical questionnaire documents, whilst the researcher would keep copies. The consent form was to be signed by the participants to indicate that they had read and understood the information document and that they agreed to participate, that participation was voluntary and they would be able to withdraw at any stage without penalty (Barret, 2006), and that no direct benefits resulted from participating. There were two separate signature lines on the informed consent document on which the participants signed to permit audio and video recording. Contact details for the researcher, research supervisors, and research office at the University of KwaZulu-Natal (Westville

Campus) were included in the letter to ensure that participants had the information readily available to them at any given time.

All participants, both the individuals with cerebral palsy and their colleague, were required to read the information document, sign the consent form and complete the biographical questionnaire. All these documents were written at a grade 9 level, which is the average reading age in South Africa (Statistics South Africa, 2011), so that it was easy to understand and to avoid confusion. The colleagues' details were accessed through the individual with cerebral palsy who provided the details of a colleague of their choice. The colleague was then contacted by the researcher to establish rapport and deliver the colleague's information document, consent form and biographical questionnaire.

All participants were guaranteed that recordings and data would remain confidential (Leedy & Ormrod, 2013); which will be done by excluding or changing any details which may give away the participants' identity (Leedy & Ormrod, 2013). One participant agreed to displaying his employment description even though individuals may recognise who the participant was. Participants were each given a code and referred to by their code in the biographical questionnaire, the interview schedule and all findings described in this research study.

Individuals with a disability, such as those individuals with cerebral palsy, are considered to be part of a vulnerable research population (Health Professions Council of South Africa, 2008). Research with such a population should include and encourage the individuals to participate when research is done into services with which they are involved (Borrell-Carrio et al., 2004). The ICF framework (World Health Organisation, 2001), which was used for this study, promotes the inclusion of individuals with disabilities in forming relevant policies and thus the individuals' personal views about their disorder and related issues should be

explored (Borrell-Carrio et al., 2004). The appropriate methodology, data collection instruments, partnerships and focus were developed in order to assist the individuals with cerebral palsy. If the researcher did not understand the individual with cerebral palsy when they communicated, the researcher asked for clarification by asking the individual to repeat themselves, asking the individual to explain in another way, or asking a series of questions in order to ascertain the intended meaning. Interviews were conducted on a date and at a time and place that was convenient to the participant. The researcher ensured that the venue was conducive to interviewing, for example with minimal background noise and distractions. Interviews were conducted in a language of the participant's preference. This was done in order to ensure that the participant felt comfortable and conversed freely when sharing their experiences. A translator was used to assist in creating an isiZulu version of the information document, consent form, biographical questionnaire and interview schedules.

The researcher ensured the value of truthfulness and accurate communication with all participants (Evans, 2007). All participants in this study were given the researcher's contact details, as well as the research supervisors and the research office at the University of KwaZulu-Natal (Westville Campus) to ensure that an open line of communication was kept with the participants in case of any queries. All information pertaining to the study was available to the participants throughout the study. The researcher also maintained an honest relationship with the participants.

Data collected during the study will be stored in a locked cabinet as well as on a password protected computer in the Discipline of Speech-Language Pathology at the University of KwaZulu-Natal for five years. Only the researcher and the research supervisors will have access to the data. Data that was recorded on paper will be shredded and electronic data will be formatted after five years (Willard & Ginsburd, 2009).

According to the Health Professions Council of South H. P. C. o. S. Africa (2008), the researcher has a responsibility to debrief all participants in the study. The research will be summarised and freely shared with all participants and sent to relevant organisations in KwaZulu-Natal, which is in line with the ICF framework used in this study (World Health Organisation, 2001), and may assist employment of individuals with cerebral palsy. Each participant will receive an electronic or hard copy of the summary if indicated on the returned consent form. A list of relevant health care professionals, such as a Speech-Language Therapist specialising in adults with cerebral palsy, was made available to each participant.

11. Research Procedure

The research procedure is outlined in Figure 1.

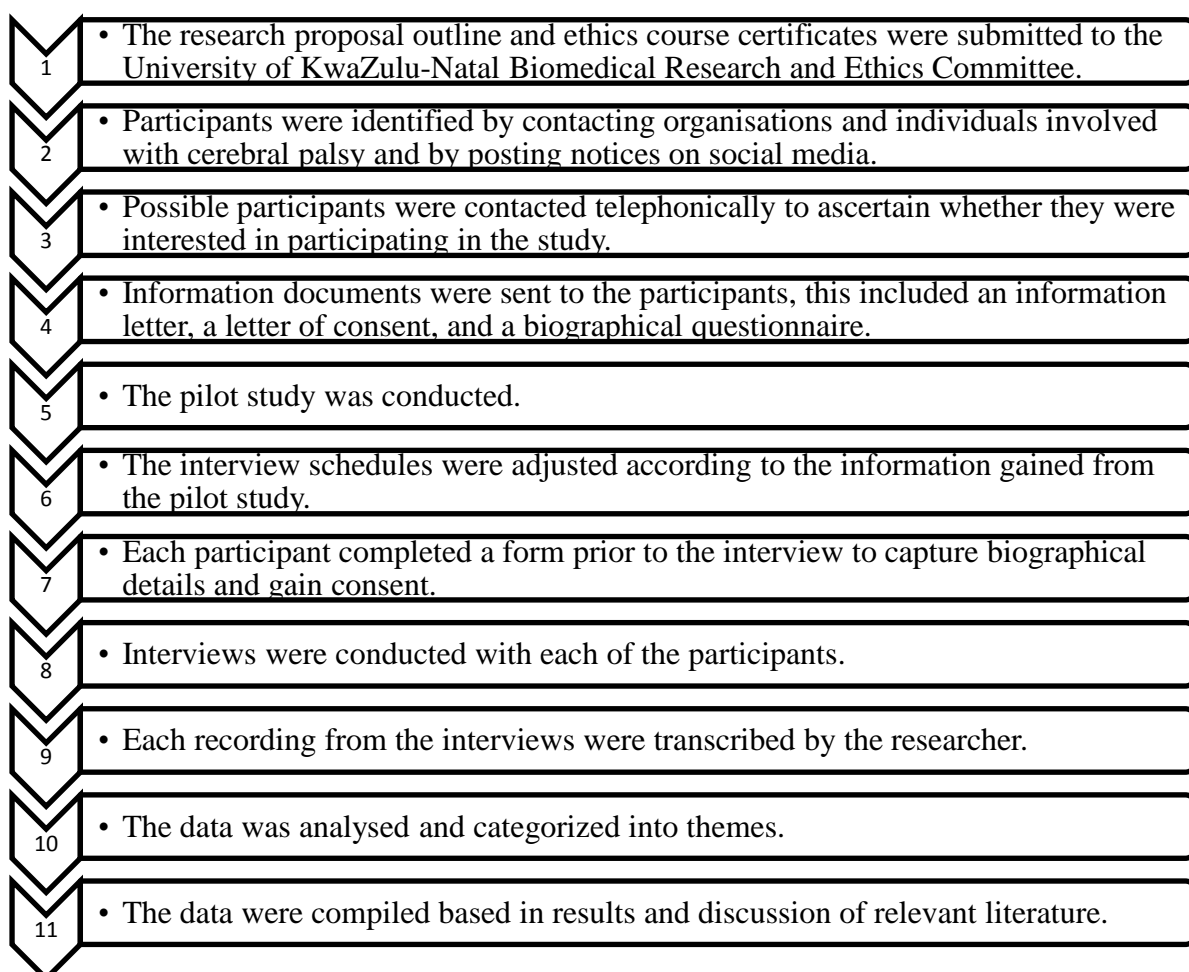


Figure 1: Research Procedure

Summary of Chapter

This chapter described the procedure undertaken to complete the study. The aims, research design, selection criteria for participants and details of the participants were explained. Data collection and data analysis were described in detail. The chapter concluded with a review of the issues relating to validity, reliability, trustworthiness and ethical undertakings of the study.

Chapter Four: “Don’t Let Your Disability Stop You” – Results and Discussion

The aim of this study was to explore the employment experiences of individuals with cerebral palsy, who have a communication difficulty, and their colleagues. The participants in this study included six individuals with cerebral palsy and a colleague of each. All individuals with cerebral palsy were working full-time and were paid in competitive employment. Individuals with cerebral palsy were represented by both males and females; however, all colleagues were female. Both English and isiZulu speaking participants were included. The results and discussion reflect data gathered in the interviews. All results are described qualitatively using themes that emerged from the data and are described and discussed in relation to relevant literature. Results are presented according to fourteen main themes and sub-themes that emerged during data analysis. The themes and sub-themes are outlined in Table 15 and are further represented in Figure 2.

Table 15

Themes included in Results and Discussion

Number	Theme
1	“If you are not used to how I talk its difficult”: The variability of speech characteristics
2	“I rather repeat myself than not talk”: Tackling communication breakdown
3	“It is better one-on-one”: Communicating in a group conversation or meeting
4	“I need someone to help me”: Feeding and swallowing
5	“They taught me how to talk”: The role of therapy
6	“In the beginning...they didn’t even want me”: The fight for education
7	Employment outcomes – Does policy meet practice?
8	“I have a mental aversion to speaking to strangers on the phone”: Using a telephone
9	“I can do just about anything on it”: Embracing technology in the work place

10	“They are very helpful”: Relationships in the work place
11	“I learnt many skills there”: Social participation in activities
12	“Employment opportunities are rare, sometimes even non-existent”: Barriers to employment
13	Opening new doors: Employment opportunities
14	“Don’t let your disability stop you”: Paving a road to successful employment

The coding system used for participants in this study is presented in Table 16.

Table 16

Coding of Participants⁷

Individual with cerebral palsy	Colleague
P1	WC1
P2	WC2
P3	WC3
P4	WC4
P5	WC5
P6	WC6

1. “If you are not used to how I talk its difficult”: The variability of speech characteristics

1.1. Speech difficulties: A sub-systems analysis

Individuals with cerebral palsy may experience several difficulties with communicative aspects, such as speech, the development of gestures and facial expression, the acquisition of receptive and expressive language, and voice production (Pennington et al., 2005). Speech disorders in cerebral palsy may vary according to the type and severity of the cerebral palsy

⁷ **Key for abbreviations**

P: Participant with cerebral palsy

WC: Work colleague

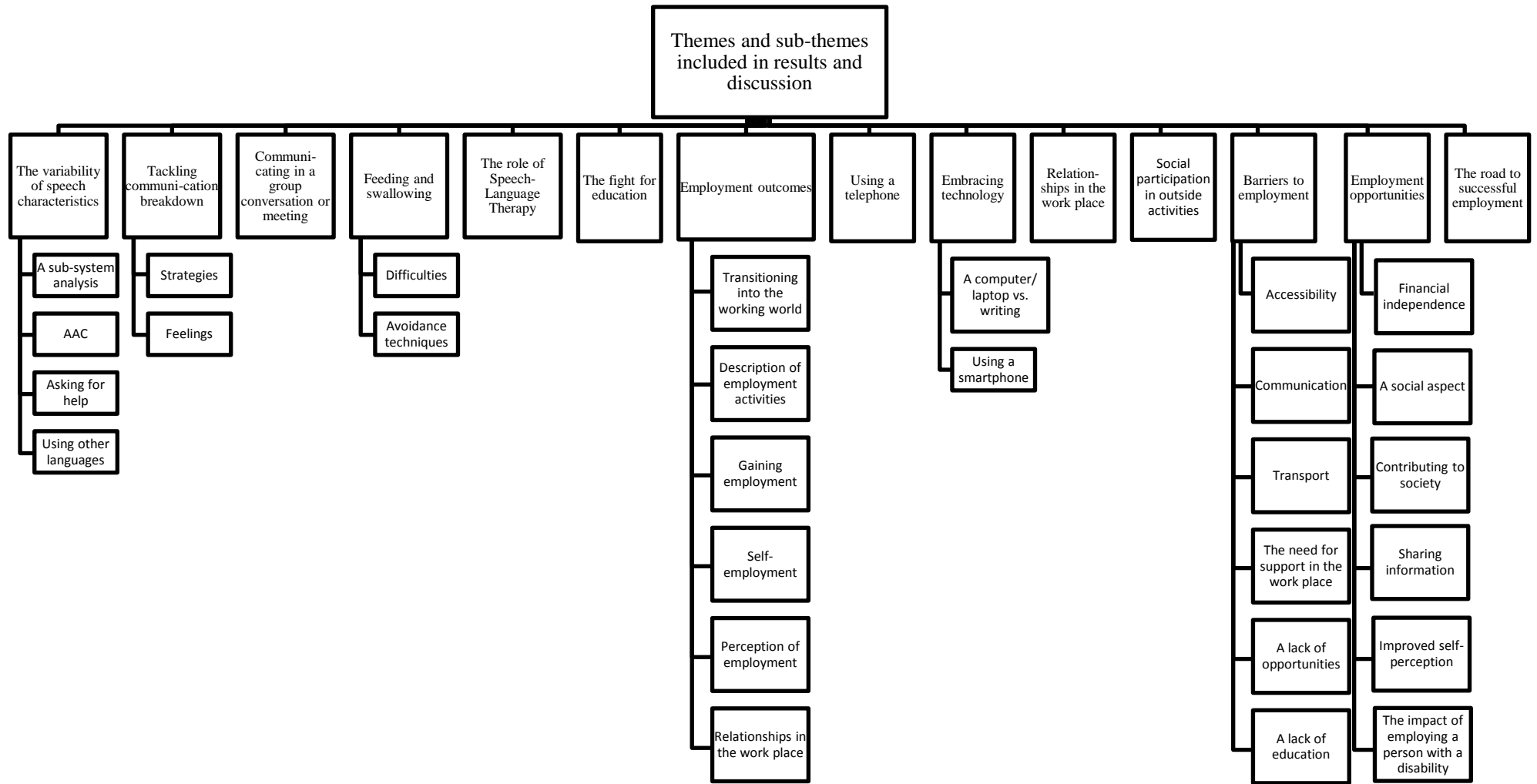


Figure 2: A Summary of Themes and Sub-themes

and are usually a result of weakness and incoordination (Duffy, 2013). Speech disorders are associated with each type of cerebral palsy and affect speech intelligibility of the individual (Pennington et al., 2005). Due to the varied characteristics of individuals with cerebral palsy there were no consistent findings about the intelligibility of speech. Individuals in this study varied in their level of intelligibility in relation to familiar and unfamiliar listeners.

Four of the individuals with cerebral palsy presented with characteristics of dysarthria with differing levels of severity, one individual with cerebral palsy presented with severe dysarthria which resulted in little functional speech and used Augmentative and Alternative Communication, and one individual with cerebral palsy presented with mild articulation difficulties. Dysarthria is a motor speech disorder and follows the same classification system as cerebral palsy; for example, if an individual with spastic cerebral palsy develops dysarthria they will have spastic dysarthria (Gillam et al., 2011). All sub-systems (respiration, phonation, resonance, articulation, and prosody) of speech production were reported to be affected in the individuals with cerebral palsy in this study.

1.1.1. Respiration and phonation

Difficulties with respiration may be present and can result in reduced respiratory support for speech (Gillam et al., 2011). Respiratory complications are common in spastic and athetoid dysarthria (Love, 2000) and are due to the difficulty in generating and maintaining subglottal pressure and therefore co-ordinate with reduced phonation (Gillam et al., 2011). Direct phonation difficulties were not discussed by any of the individuals. Respiration and phonation often interact with each other and can produce speech that is harsh or breathy (Duffy, 2013). This was observed in some of the individuals with cerebral palsy and voice often fluctuated during the research interview.

WC1:	It's mostly at the end of his sentences where because of him going into a spasm
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and not having air to finish a sentence, that's when you find it's difficult to hear.

1.1.2. Resonance

Difficulties with resonance were not discussed by any of the individuals in this study; however some individuals with cerebral palsy were observed as having a hypernasal voice quality. Resonance can be problematic in cerebral palsy due to a premature opening of the velopharynx during the production of syllables and a break of the velopharyngeal seal during non-nasal productions (Gillam et al., 2011). Hypernasality and nasal emissions are common in spastic dysarthria (Love, 2000). This results in hypernasality and nasal emission during speech production.

1.1.3. Articulation

Articulation problems are a common, and often severe, difficulty in individuals with cerebral palsy (Duffy, 2013). This is consistent with findings in this study as individuals with cerebral palsy were observed to have difficulties with articulation. Articulation errors may be the result of a hyperextended mandible with an open mouth, which makes it difficult to round, protrude, or close the lips. A hyperextended jaw and abnormal tongue position may prevent precise shaping and constriction of the vocal tract for vowel and consonant production (Gillam et al., 2011). Articulation errors may also be due to prolonged transition times for articulatory movements or instability of velar elevation (Love, 2000). Articulation difficulties were noted for all types of cerebral palsy in this study. The articulatory subsystem is the primary contributor to reduced speech intelligibility (Kuschmann & Neill, 2014).

P5: I have a problem with my tongue. It doesn't always do what I want it to do.
P6: I've noticed that sometimes I don't talk as clearly as I think I do. And

sometimes it affects my enunciation. But it's less and less obvious. I mean I've been told by people that my speech is actually improving.

1.1.4. Prosody

Both individuals with cerebral palsy and their colleagues stated that the individuals with cerebral palsy had difficulty controlling their tone of voice and this would unintentionally come across as angry or frustrated. This is consistent with literature which states that individuals with cerebral palsy may have difficulty with the ability to mark stressed words in an utterance in languages using stress (Duffy, 2013). This is due to “poor respiratory control which disrupts timing of respiratory and laryngeal functioning, and poor control of laryngeal tension, intonation and the ability to mark stressed words in an utterance are impaired” (Gillam et al., 2011, p. 186).

P3:	Maybe facial expressions and tone of voice. I struggle with that cause when I'll ask for something and even though I'm not frustrated my tone comes out like that. My face comes out frustrated and angry.
P5:	I can't speak quickly; people have to listen very carefully.
WC5:	He comes across as very rude to his customers. I think it's coming out but he's not realising it.

The speech characteristics of individuals with cerebral palsy in this study varied widely. Three individuals with cerebral palsy presented with spastic cerebral palsy, two of which presented with spastic dysarthria. One of these individuals had difficulties with all five speech sub-systems and the other presented with difficulties with articulation, prosody, and resonance. The last individual with spastic cerebral palsy presented with mild articulation difficulties. One individual had ataxic cerebral palsy and presented with ataxic dysarthria which affected articulation and resonance. Two individuals presented with athetoid cerebral

palsy and therefore athetoid dysarthria. One individual presented with difficulties across all five speech sub-systems and the other individual presented with severe dysarthria which resulted in little functional speech and required the use of augmentative and alternative communication.

1.2. Augmentative and alternative communication

Augmentative and alternative communication (AAC) can provide “appropriate and comprehensive services for people who have complex communication needs” (Light & McNaughton, 2013, p. 299). AAC is useful for individuals with little to no functional speech, as was observed with individuals with cerebral palsy in this study who required assistance with their speech. Participant 4 used his Android Tablet with a voice output application with a Bluetooth keyboard. This individual with cerebral palsy downloaded a free application called Type and Speak which is a basic text-to-speech application. Both he and his colleague described this as being extremely useful and enabling to their communication. Participant 4 also reported that he has started taking his Tablet to social functions as it enables him to communicate with others. The Tablet has enabled him to integrate better socially and is not too daunting for the listener as most individuals are familiar with a Tablet. The Tablet also provides a platform for an AAC device which requires limited maintenance and supports a range of different languages.

Another individual used a Delta Talker⁸ accessed via a head pointer at a younger age. His speech has since improved and he no longer requires this. He found the Delta Talker exceptionally challenging to learn the system and picture symbols required for it and, although appreciative for the chance to communicate described it as being time consuming for both himself and the listener. An AAC device may be daunting for an individual who is

⁸ A Delta Talker is a device which resembles a computer keyboard. Each key has an interchangeable picture or word on it and these are used to formulate sentences.

not aware of its usage and as a result s/he may avoid interacting with the individual who uses AAC. It could also be time consuming to hold a conversation with an individual who uses an AAC device and the listener would need to have had training and education on the device (Gillam et al., 2011).

P2:	I used to use a Delta Talker because I couldn't talk.
P4:	I have a voice output application on my phone and Android Tablet which I use quite a bit.

The one individual with cerebral palsy, who used an AAC device in this study, reported that it allowed him to communicate his ideas, ask and answer questions and better integrate socially with his colleagues. Both he and his colleague found this to be an effective way to communicate. For individuals with complex communication needs, AAC is an essential factor for gaining and maintaining employment (McNaughton et al., 2002). AAC was an advantage to the work place needs for the individual in this study. "Access to an efficient, effective, and appropriate means of communication for both work and social purposes is vitally important in the work place" (Light & McNaughton, 2013, p. 301).

1.3. What do you do if you need help in the work place?

For individuals with communication difficulties asking for help may be a difficult and often a daunting task. All individuals with cerebral palsy in this study were able to ask or call for help when needed. One colleague had a bell fitted to the individual with cerebral palsy's desk in the event that they were unable to hear him calling due to limited speech.

WC4:	He is able to call us if he needs help, by using his voice or by pressing a bell we have attached to the desk.
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1.4. The use of other languages in the work place

Two individuals with cerebral palsy in this study were bilingual and communicated in two languages, namely English and Afrikaans, and English and isiZulu. Three other individuals with cerebral palsy were able to converse using a few words in another language, and one individual stated that individuals “battled to understand me in English, imagine Afrikaans”. Although isiZulu was one individual with cerebral palsy’s first language, he found it easier to listen, read, and write in English, his second language, as this was the medium of instruction at his school. Knowledge of the second language is usually used to socialize with colleagues. This would be a form of Basic Interpersonal Communication Skills (BICS) in which the individual learns a second language in order to be able to converse in general everyday topics (Cummins, 1984). This is useful in South Africa as there is a wide variety of languages, and knowledge of BICS enables individuals to communicate on a more personal level with other individuals.

P4:	I can speak a bit of Zulu.
P5:	I speak Zulu at home and English at work. There’s some customers that don’t understand Zulu and some that don’t understand English.

2. “I rather repeat myself than not talk”: Tackling communication breakdown

Communication breakdowns are common in the work place, whether communication difficulties exist or not. Individuals with cerebral palsy experienced communication breakdowns or miscommunications in the work place. For the individuals in this study communication breakdowns were not a result of a receptive language deficit or intellectual disability, it was mainly due to decreased speech intelligibility. These breakdowns can act as a barrier to successful interactions in social situations and for work purposes (Kuschmann & Neill, 2014).

2.1. Strategies to cope with communication breakdown

Communication in the work place is critical to employment success and many individuals with cerebral palsy have difficulties with this (McDermott et al., 2007). Adults with cerebral palsy who present with poor speech intelligibility, or who use AAC, may find that communication is difficult to maintain as the communication partner may have insufficient training in facilitating communication (McVilly, 1997). All individuals with cerebral palsy in this study had experienced conversation breakdown and adopted strategies such as repetition or rephrasing, to repair the communication breakdown. Some individuals with cerebral palsy relied on technology as their strategy in the case of a communication breakdown, which included typing the message on a cell phone or laptop.

P1:	I generally just repeat myself and try to be as clear as possible.
P2:	Normally I repeat myself or I put it in another way or I type it on my phone.
P3:	I'll try explain it in another way.

The colleagues were aware of these strategies and were seen as reacting positively and being understanding in these situations. Colleagues found it easier to understand the individual with cerebral palsy if they were aware of the topic or context of the interaction. One individual's colleagues (P5) would call a supervisor or a colleague who regularly interacted with the individual with cerebral palsy to relay the message. A new colleague may need to employ a variety of methods to increase understanding. A Speech-Language Therapist may offer valuable support and training to assist the individual with cerebral palsy and their colleagues in this regard (Pennington et al., 2010).

WC2:	When he's tired it's hard to understand. You just have to figure out a way to say to him 'say it in a different way, spell it, put it in a different sentence and, if all else fails, type it on your phone'. But there is always a way to work it out.
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	We never just let it go. There's lots of ways to figure it out.
WC4:	The more time you spend with him the more you will understand him, but if there is a communication barrier he uses his computer to relay the message.

2.2. Feelings about not being understood

Feelings about being misunderstood varied in this study. Some individuals with cerebral palsy experienced feelings of frustration due to not being understood. Colleagues were in agreement that it can be frustrating for the individual with cerebral palsy. Some colleagues had negative attitudes due to communication breakdown and how to rectify this. Communication is a multimodal process involving the integration of a variety of means, depending on communication intents, environments, and partners (Williams et al., 2008). Thus for communication to exist efficiently in the work place, it would be reliant on the individual with cerebral palsy as well as their colleagues. This highlighted the significance of gaining the views of both individuals with cerebral palsy and their colleagues. Training colleagues in strategies to assist communication breakdown or the use of AAC devices may help to assist the individuals with cerebral palsy to be understood better (Pennington et al., 2010).

P1:	It's unpleasant to be misunderstood...I'm more concerned with the person I'm speaking to than my own feelings about it.
P4:	I just tell them to read what's on the screen. I get frustrated, it happens quite a lot.
WC5:	I think it does frustrate him, but I think he understand why now.

Other individuals with cerebral palsy found that they did not mind having to repeat themselves in order to convey a message as they understood why it may be difficult for someone to understand them.

P2:	I actually don't mind because I always tell people I rather repeat myself than don't talk at all. So I don't really mind.
P3:	Well that changes from day to day, I don't really get frustrated.

Many individuals with cerebral palsy experience communication breakdown in the work place. Some individuals experienced negative attitudes in the work place because of communication breakdown which can impact their perception of their work place and their ability to interact on a social level (McNaughton et al., 2002). Social problems related to daily occupation and education, and limited ability to communicate are recognised as areas of concern for adults with cerebral palsy and can have limitations on participation in daily life (van der Dussen et al., 2001). This is in accordance with the ICF Framework where participation is an important component of daily functioning (World Health Organisation, 2001).

3. “It is better one-on-one”: Communicating in a group conversation or meeting

A common theme that emerged in this study was the difficulty for individuals with cerebral palsy to express themselves in a group conversation or meeting. Individuals with cerebral palsy discussed feelings of nervousness and preferred one-on-one conversations. The individuals with more severe speech difficulties and decreased intelligibility generally found it more difficult to communicate in a group conversation or meeting, mainly due to feeling nervous of talking in front of a group with a speech difficulty, fear of being misunderstood, and decreased speed of speech. Adults with cerebral palsy, especially those who make use of AAC devices have reported that there is a lack of spontaneity in conversations (McNaughton et al., 2002). Some colleagues understood the frustration of the individual with cerebral palsy and admitted to not directing the conversation to the individual with cerebral palsy. This

could lead to feelings of isolation for the individual with cerebral palsy (Ballin & Balandin, 2007).

P2:	With a group of people it's very difficult because they are all talking and they don't give you a chance to talk because I don't think they forget about you but everyone else is talking. I don't know how to say it but its better one-on-one because I have your full attention. In a group there is a lot of noise so it's more difficult.
P3:	I generally stay away from those [group conversations and meetings] but I will have my say if I feel in my head that I can back it up.
P5:	I feel it is difficult because they make a joke about me.
WC2:	I think when you're in a group people tend to just leave him over 'there'. If he really wants to be heard he will make himself heard but when a conversation is flowing, and he can certainly correct me, you have a tendency not to direct the conversation to him. It's not on purpose, it just happens.
WC4:	He gets frustrated in group conversations; he prefers one-on-one interaction.

Other individuals with cerebral palsy felt it was important to express their feelings in order to contribute to work place goals. These individuals felt equality in the work place was crucial in enabling them to be better included.

P1:	I communicate in the same way as anyone else would and have no problem making myself heard if I feel that I have not been listened to, however that is a rare occurrence.
P6:	I talk too much. They have to tell me to give someone else a turn.

Some colleagues' views about a group conversation or meeting contrasted with those of the individuals with cerebral palsy and did not perceive the individual with cerebral palsy as being nervous or anxious and also did not realise that communicating in front of a group of people can be daunting.

WC1:	He's not scared to say what he feels and it's awesome.
WC3:	She says her piece. If she's not happy she will always say so.
WC5:	He does speak. And everybody is very patient with him.
WC6:	Yes she definitely communicates. She's very expressive.

Successful participation in group conversations or meetings is challenging for individuals with communication difficulties (Stanton, 2012), which was the case for the individuals with cerebral palsy. This can limit the individual with cerebral palsy's participation and integration into daily life activities and the aim should be to maximise communication for individuals with complex communication needs (Light & McNaughton, 2013). This can be achieved by providing training and support for both the individuals with cerebral palsy and their colleagues to eliminate communication barriers, thus ensuring more effective communication.

4. "I need someone to help me": Feeding and swallowing

4.1. "I lack the dexterity to cut things": Difficulties with feeding and swallowing

Eating is a social activity and is subsumed into communication (Haak et al., 2009). Individuals with cerebral palsy who have difficulties with feeding or swallowing may need assistance from another individual whilst eating and thus eating patterns may limit an important daily activity that is shared with other people (Haak et al., 2009). Two individuals with cerebral palsy in this study required someone to feed them, two individuals had some difficulties with manipulating utensils due to physical limitations, one of whom had difficulties with the oral preparatory stage of feeding when it came to foods which required extensive chewing, and the other two individuals reported no difficulties with feeding and swallowing. No individuals in this study reported difficulties with the oral phase, pharyngeal phase, or oesophageal phase.

P1:	My only difficulty is that I lack the dexterity to cut things with a knife and fork, so if something requires cutting I ask for help. I generally eat with a fork and spoon and have no difficulty swallowing.
P2:	No difficulty swallowing but I need someone to feed me. I can eat anything and everything.
P3:	Sometimes I choke on my food but it doesn't happen very often. I can cut myself, apart from steak. Steak and chops take a long time to chew.
P4:	It's hard to chew a lot because I get lock jaw so I try avoid food that needs to be chewed a lot.

All the colleagues in this study were unaffected by the individual with cerebral palsy's eating habits and did not feel uncomfortable to be around them during meal times.

WC1:	In the beginning, like with everything, you have got to get used to it. It's not uncomfortable; it's also just a personal thing. But we don't have an issue with it.
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4.2. "He prefers to do so by himself": Avoidance techniques

Feeding difficulties create a social and psychological consequence and thus individuals may avoid eating with other people (Eckberg et al., 2002). One individual with cerebral palsy (P2) did not avoid eating or drinking with others as he enjoyed the social aspect of it.

P2:	I feel fine because sometimes they will offer, hey, it's my turn to feed you, so it becomes a game offering
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All other individuals with cerebral palsy in this study, who had difficulties with feeding, had avoidance techniques which enabled them to feel more confident with eating. This included ensuring that certain things aren't ordered or cooked such as foods that require extensive cutting or chewing, or foods that have the consistency of thick liquid as this usually

resulted in spillage. One individual with cerebral palsy (P4) preferred to eat in isolation with his caregiver.

P1:	I avoid eating saucy things, like pasta, when I'm out as I'm aware that it is more difficult for me to eat messy things like that. This does not affect where I go for meals.
WC4:	He does not like to interact when eating or drinking, he prefers to do so by himself.

Dining together is an important social interaction for an individual and a person with eating difficulties may feel socially isolated (Haak et al., 2009). An individual with a feeding or swallowing difficulty will need to feel confident feeding and swallowing with other individuals in order to increase their confidence and establish social connections (Haynes et al., 2012).

5. “They taught me how to talk”: The role of Speech-Language Therapy

All but one of the individuals with cerebral palsy in this study received Speech-Language Therapy, Occupational Therapy, and Physiotherapy. These five individuals attended a school for children with special needs where they received therapy. The other individual with cerebral palsy, who attended mainstream schooling, only received Physiotherapy. Table 17 illustrates the intervention received by each individual with cerebral palsy and the approximate age ranges during which each individual received the therapy.

Most individuals with cerebral palsy in this study attended Physiotherapy at a younger age than beginning other forms of therapy. Five out of six individuals received early intervention for Physiotherapy from private based Physiotherapists. Physiotherapy also concluded at a later age than other therapies as it is the only therapy that the individuals in

this study received after primary school. For the individuals in this study, Occupational Therapy was usually received during the same time period as Speech-Language Therapy.

Table 17

Intervention Approximate Age/Grade Ranges of individuals with Cerebral Palsy

Participant	Speech-Language Therapy	Occupational Therapy	Physiotherapy
P1	Preschool to grade 5	Preschool to grade 5	Preschool to grade 12
P2	2½ years to grade 5	18 months to grade 4	9 months and still ongoing
P3	4 years to 9 years	4 years to 9 years	3 months to 12 years
P4	7 years to grade 6	7 years to grade 6	1 year to grade 12
P5	Grade 3 – grade 7	Grade 3 – grade 7	Grade 3 – grade 7
P6	-	-	2 years to 22 years

A Speech-Language Therapist’s role in the management of an individual with cerebral palsy will vary from person to person due to the wide variety of characteristics and severity level that individuals with cerebral palsy possess. A Speech-Language Therapist will assess, diagnose, and treat the communication and swallowing disorders associated with cerebral palsy (Pennington et al., 2005). Only one individual with cerebral palsy in this study received early intervention (therapy that begins before the age of 3 years) from a private Speech-Language Therapist. Early intervention is crucial in assisting development of speech, language and literacy skills (Pennington et al., 2005). Two other individuals began private Speech-Language Therapy in preschool and the other two individuals began Speech-Language Therapy when it was offered to them in primary school. None of the individuals with cerebral palsy in this study continued Speech-Language Therapy into high school. Individuals with cerebral palsy were not all aware of the reason for the discontinuation of

Speech-Language Therapy. The individuals with cerebral palsy who received Speech-Language Therapy all stated that it helped them achieve better communication skills.

P2:	In speech they taught me how to talk to people because not everyone can understand me. So they taught me how to communicate.
P5:	I could not talk; I had to learn to speak because they couldn't understand what I was trying to say.

Figure 3 summarises the communication themes that emerged from this study. Due to the speech difficulties of individuals with cerebral palsy in this study who have reduced intelligibility and communication breakdowns that occur, it may have been beneficial for individuals with cerebral palsy to continue Speech-Language Therapy into high school or to have Speech-Language Therapy to assist with transitioning into the work place.

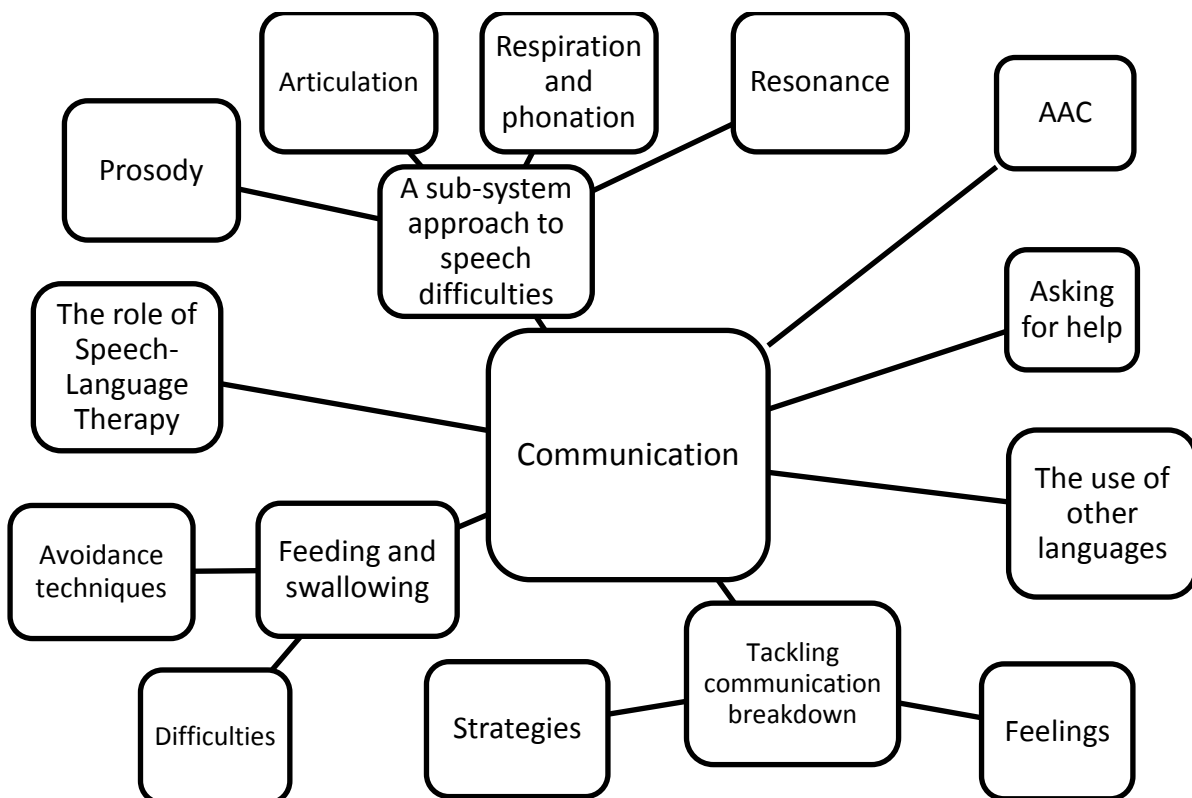


Figure 3: Summary of Communication Themes and Sub-themes

Most adults with cerebral palsy do not receive Speech-Language Therapy once they leave school and thus little is known about Speech-Language Therapy services for adults with cerebral palsy (Majnemeer et al., 2013). Similar results were obtained in this study as the individuals with cerebral palsy did not receive Speech-Language Therapy in adolescence and adulthood. This further underlies the importance for Speech-Language Therapists to know how communication difficulties can affect performance in the work place as this information can influence therapy goal setting and counselling (Haynes et al., 2012). In addition to this “therapists may be limiting services at a time of life when they are most needed to help prepare for future roles” (Vogtle, 2013, p. 1).

The Speech-Language Therapist has been identified as an important member of a multidisciplinary team to future employment of individuals with cerebral palsy (Vogtle, 2013), however this is currently not the case for the individuals with cerebral palsy in this study and highlights a gap in service delivery for adults with cerebral palsy in KwaZulu-Natal.

The communication functions of an individual are included in the ICF (World Health Organisation, 2001) and are important in the scope of practice for a Speech-Language Therapist (American Speech-Language-Hearing Association [ASHA], 2015). It is clear from the data that emerged from this study that the individuals with cerebral palsy presented with difficulties with communication on several levels and would benefit from intervention from a Speech-Language Therapist. Only one individual with cerebral palsy in this study received early intervention for Speech-Language Therapy and none of the individuals with cerebral palsy received Speech-Language Therapy as an adolescent or adult. Therefore Speech-Language Therapy services should be offered across the lifespan of an individual with cerebral palsy to maximise communication abilities. Barriers to Speech-Language Therapy may include cost, access, and information (Baylor & Yorkston, 2007).

A Speech-Language Therapist involved in the assessment and management of an individual with cerebral palsy should make several adaptations to intervention services provided across a life span in order to improve provision of services offered and enhance communication. Firstly, early intervention should be advocated for as this is crucial in assisting development of speech, language and literacy skills (Pennington et al., 2005). Speech-Language Therapy services should then be offered to an individual with cerebral palsy throughout their educational career and offer support services to adults. Keeping in line with the ICF framework (World Health Organisation, 2001), intervention services should offer a combination of one-on-one therapy and include those in the individual with cerebral palsy's immediate environment, for example family and colleagues. Figure 4 relates the communication components of an individual with cerebral palsy according to the ICF framework (World Health Organisation, 2001).

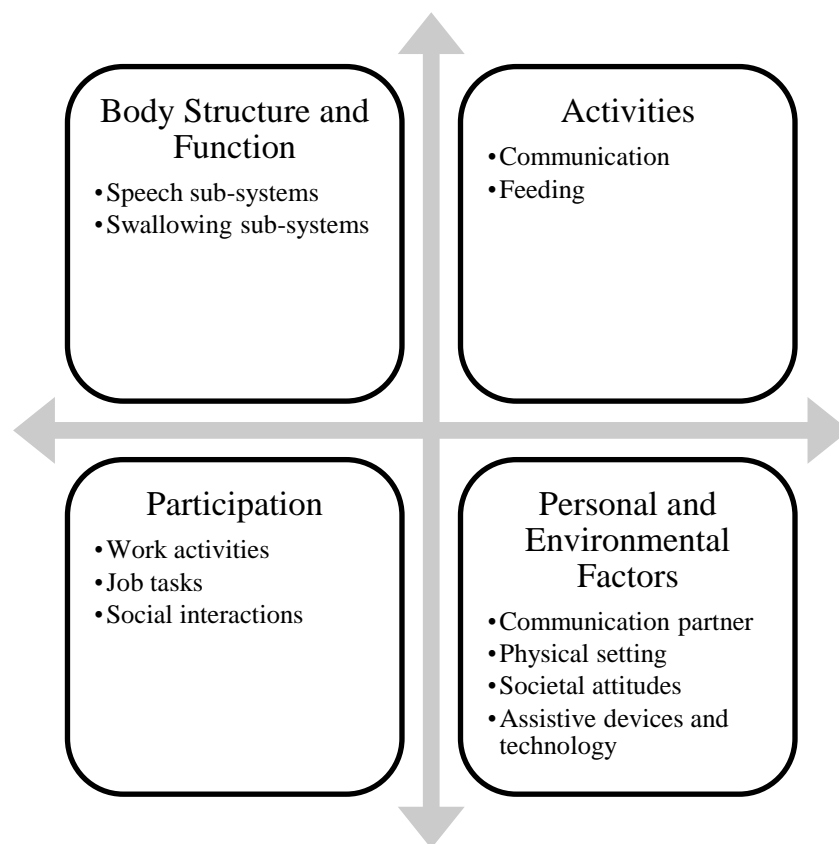


Figure 4: Communication according to ICF Components

Therapy services which are provided in early adolescence have been associated with participation in higher education by individuals with disabilities, including cerebral palsy (Vogtle, 2013). Higher education has been noted as a significant predictor of employment success (Vogtle, 2013). Most individuals with cerebral in this study achieved higher education which assisted with gaining qualifications needed for their employment roles. As employment experiences are an important part of environmental factors, the ICF framework can guide service provision for Speech-Language Therapists and play a key role in improving communication in the work place. Intervention at all levels of the ICF may be important (Liptak, 2008).

Due to the heterogeneity of cerebral palsy, the abilities and limitations of each individual with cerebral palsy should be described separately for each component of the ICF in order to best manage individual characteristics. Assessments should be conducted at various stages of life. The goals of intervention for adults with cerebral palsy are inclusion and participation in major life areas (Liptak, 2008). Objectives of intervention could be to minimize impairments in body structure and function and optimize activities and participation (Liptak, 2008). Speech-Language Therapists should provide services for communication partners, such as colleagues, as this would both increase awareness of cerebral palsy and train communication partners in communicating and repairing conversation with an individual with cerebral palsy. Training on assistive devices, such as AAC devices, would also improve communication abilities of both the individual with cerebral palsy and colleagues.

6. “In the beginning...they didn’t even want me”: The fight for education

Quality education has been identified as an important aspect in preparing for successful employment (McNaughton et al., 2002). Some individuals with cerebral palsy in this study experienced barriers to education. Two interrelated issues with education barriers were the generally low expectations society held of individuals with disabilities and the lack of

accessibility to education. One individual with cerebral palsy (P6) attended mainstream schooling and all other individuals attended a school for children with special needs. Participant 6 attended university and completed two bachelors' degrees. Participant 3 attended college to complete a hospitality course and reported no complications with accessing the course but had difficulties learning to work with people with varying personalities. One individual (P5) was unable to continue to high school due to difficulties coping with schooling in a second language and instead went into prevocational class. One individual (P4) was unable to complete grade 12 as the school said he did not have a second language and therefore would not qualify for a pass. Two compulsory official languages are required to pass Matric in South Africa (IEB, 2015). Participant 4 further attempted to access courses but reported that they "kept declining me because none of them were wheelchair friendly".

P4:	I ended in standard 9 (Grade 11) because I didn't have enough subjects because I couldn't do a second language due to my speech. I wanted to try an extra subject to make up for it but they weren't interested. It was an ongoing battle for 5 years.
R ⁹ :	Did they cater for you, as a person with a disability?
P4:	When I went there I was the most disabled student there so I don't think they could accommodate me.

Two individuals with cerebral palsy (P1 and P2) both attended colleges in order to complete certificates in their chosen fields. Both individuals discussed barriers in terms of being accepted into the course and accessing buildings which are described below.

P1:	We had almost given up on me being able to complete the course.
R:	Did they cater for you, as a person with a disability?

⁹ **Key for abbreviation**
R – Researcher

P1:	Not in a professional sense but my lecturer was very helpful, he would help set up laptops or get my studying material out, but in terms of infrastructure no, you pretty much on your own.
R:	Did they cater for you, as a person with a disability?
P2:	In the beginning, no, they didn't even want me. They said it's too much hassle to have a disabled person.
R:	How did you get around that?
P2:	They gave me a month to prove them wrong.

Individuals with cerebral palsy have societal barriers to education. Individuals with cerebral palsy felt that society had low expectations of individuals with disabilities (McNaughton et al., 2002). This view was mirrored by individuals in this study. In a similar study, it was found that individuals with cerebral palsy performed better when academic expectations were high as often the expectation levels were too low and thus the activities provided were not appropriate (McNaughton et al., 2002).

According to policy, individuals with cerebral palsy and other disabilities should not have barriers to education (Department of Women, Children and People with Disabilities, 2011). This was not the case for individuals in this study. White Paper 6 promotes not only inclusion in education but quality education for children with disabilities (Department of Women, Children and People with Disabilities, 2011). Promoting inclusion in schools also endorses equal opportunities in academic and vocational training, thus furthering employment opportunities. The Organisation for Economic Co-operation and Development (2008) stated that the amount of physical resources and staff available in schools in South Africa is inadequate and thus learners with disabilities are being turned away.

The Department of Higher Education and Training (2013) have a policy for higher education and vocational training of individuals with disabilities. This policy recognises the need for inclusion for individuals with disabilities and the need for societal equity (Department of Higher Education and Training, 2013). Once this policy is implemented it will aid in improving chances of success in higher education for individuals with disabilities. The policy also promotes the importance of vocational training for all individuals (Department of Higher Education and Training, 2013) which may aid in better employment opportunities. Individuals with disabilities who gained employment experiences through vocational programs are more likely to be employed than those who did not have those experiences (Mavromaras & Polidano, 2011), thus reinforcing the importance of vocational training. As individuals grow older educators, vocational counsellors and therapists involved in the management of cerebral palsy should work together to identify vocational courses or work experiences designed to assist individuals with disabilities gain employment experiences (McNaughton et al., 2002).

The proportion of individuals with disabilities currently attending higher education institutions is far below the national proportion of individuals with disabilities as individuals with disabilities account for only 1% of the total number of students enrolled (Department of Higher Education and Training, 2013). This indicates that there are still numerous barriers in accessing higher education. Barriers to education could be due to several factors which include infrastructure which is not accessible for individuals with disabilities, not enough funding for individuals with disabilities, and because many learners with disabilities do not qualify for university education (Department of Higher Education and Training, 2013). The strategy to overcome this will be to require all post-school institutions to address policy and develop targets in order to implement these policies (Department of Higher Education and Training, 2013).

7. Employment outcomes – Does policy meet practice?

There are numerous policies in South Africa promoting the inclusion of individuals with disabilities, such as the White Paper on Integrated National Disability Strategy (South African Government Information, 1997) and the Promotion of Equality and Prevention of Unfair Discrimination Act (Department of Labour (2002)). Despite this the individuals with cerebral palsy in this study faced numerous barriers in the work place.

7.1. “I couldn’t find a job”: Transitioning into the working world

Individuals with cerebral palsy in this study discussed difficulties transitioning from school to the working world. Many of the individuals did not have any form of employment for up to a year before either starting something of their own or finding employment. Some individuals took odd jobs, for example working in shops or volunteering, despite having qualified in their various fields.

P1:	When I did my course, it was a 2 year course in journalism, at the end of it the requirement was that you go out and find your own internship and it was actually really difficult. We had almost given up on me being able to complete the course but thankfully one of my last applications called back and asked me to come in for an interview.
P2:	I was looking for a job.
R:	Was that difficult?
P2:	Yes so I decided to do something else.
P3:	I sat at home for a couple of months.

A smooth transition from adolescence to adulthood will help to optimize the well-being of individuals with cerebral palsy (Liptak, 2008). This transition may be delayed for individuals with cerebral palsy due to physical limitations, fewer opportunities for social

integration and employment opportunities, and a lack of acceptance by employers and peers (Liptak, 2008). Transition planning should begin as early as 14 years of age and services for individuals with cerebral palsy should be planned by keeping in mind an entire life perspective rather than just the current child-based approach (Bottos et al., 2001). Transition planning should include an assessment of the individual with cerebral palsy, their family, their community; and then development and implementation of the plan (Liptak, 2008). The transition plan will require adequate preparation, have flexible timing, and should include adult-centred health care providers (Liptak, 2008).

7.2. “There is something for everyone”: Descriptions of employment activities

The individuals with cerebral palsy in this study represented a number of different employment backgrounds: a communications manager, a graphic designer and coach for disabled sport, an administrative assistant, an IT specialist, customer service worker, and an educator. All the individuals hold full-time jobs that are paid in competitive employment and require the use of communication skills, both verbal and written. One individual with cerebral palsy worked part time for the government and all other employment was in the private sector. The number of hours worked per week ranged from 30 hours to 45 hours, with some work hours being dependant on the amount of work received. The length of employment ranged from 2 years to 15 years. Four of the individuals with cerebral palsy had different employers prior to their current positions.

7.3. Gaining employment – does policy meet practice in South Africa?

The ICF (World Health Organisation, 2001) designates employment and work as activities and participation. Components of the ICF have been identified as important outcomes of treatment received by individuals with cerebral palsy (Vogtle, 2013). All individuals with cerebral palsy in this study were in agreement that it is difficult for individuals with cerebral palsy to find employment and that stereotyping and stigmas

attached to disability were evident. Companies that do employ individuals with cerebral palsy receive little government support to improve their facilities or offer training.

P1:	Those with cerebral palsy must realise that employment is scarce and relying on your supposed BEE status as a minority will have little practical value. In fact it's been my experience that most corporate companies will do everything they can to appear to want to hire people with disabilities while in reality doing everything they can to avoid it.
WC2:	I think if you decide they can do the work they deserve a chance. I don't care if you are black, white, race, gender, male or female, cerebral palsy or otherwise. If you decide you can do the job equally as well you deserve a chance. I'm not saying you give the cerebral palsy guy a job just because you are politically correct. I want the job because you need my skills.

The Department of Women, Children and People with Disabilities (2011) stated that individuals with a disability have a right to employment, however Schriener (2001) found that individuals with disabilities are among the most economically disadvantaged groups in society and therefore it is difficult to access and find employment. This applies to the South African perspective as individuals with disabilities in South Africa form approximately 1% of the total workforce (Van Staden, 2011). Both individuals with cerebral palsy and their colleagues in this study discussed the importance of 'fitting' the job criteria in order to qualify for the position. According to the Department of Women, Children and People with Disabilities (2011), individuals with disabilities should not be discriminated against because of their disability and should be considered for employment for which they qualify.

Apart from the physical limitation of the cerebral palsy itself, reasons for the low employment rate for individuals with cerebral palsy may be attributed to environmental factors such as employment policies, accessibility (this includes difficulty accessing building and transportation services), attitudes towards individuals with cerebral palsy in the

employment sector, and lastly the difficulties that individuals with cerebral palsy have with social interactions (Michelsen et al., 2005). Individuals with cerebral palsy in this study also identified these areas as barriers to employment.

One individual with cerebral palsy (P1) was asked to present a talk to students in a special school as the principal “was concerned that many of them thought ‘oh I have a disability, I’ll just walk straight into a job’. I had to actually go and prepare them that life is not easy, it doesn’t just come to you because you’ve got a disability”. The difficulties highlighted above could be overcome with careful and appropriate transition planning for individuals with cerebral palsy. Strategies should be put in place to help individuals with cerebral palsy and other developmental disabilities transition from school to the working world and plan successful and realistic post-school goals.

7.4. “I couldn’t find a job”: Self-employment

The South African Commission for Employment Equity stated in its 2003/2004 report that there were 29 451 individuals with disabilities employed by large employers and the total number of individuals employed was 2 940 998 (Van Staden, 2011). Only about 18% of people with disabilities are employed in South Africa (Statistics South Africa, 2011). A contributing factor to this is a generally low employment rate of 35% in South Africa (Statistics South Africa, 2011). Thus individuals with disabilities are approximately 1% of the total workforce in South Africa (Van Staden, 2011). These statistics may in part explain why many individuals with disabilities are unable to find employment. Two individuals with cerebral palsy in this study were unsuccessful in gaining employment and therefore began their own businesses. Both individuals feel a sense of accomplishment with this and encourage others who are struggling to find employment to do the same.

P2: If you can’t find a job in a field that you studied come up with something.

	Don't just sit at home and do nothing. You can do something. You've just got to believe in yourself.
P4:	I would encourage them to start something themselves. There's always something to do.
WC4:	He built his two businesses from the ground by himself.

7.5. "I'm very happy": Perceptions of employment

An essential part of successful aging for adults with developmental disabilities, like cerebral palsy, is perceived life satisfaction which can be directly related to employment perceptions (Hawkins, 1999). All individuals with cerebral palsy in this study gave positive views about their current employment. One individual with cerebral palsy stated that she would prefer more challenging job tasks and another individual discussed how it was difficult at times to keep up with the work load as it was time consuming to type large amounts of information. Despite this, feelings towards employment were positive.

P1:	It's a very rewarding job.
P2:	I love it. I enjoy every minute.
P3:	It all depends on the different day. Like some days are more emotional than others. It's been quiet lately. I've been quite bored.
P4:	Its ok, it gets a bit much sometimes. But I feel proud.
P5:	I enjoy it.
P6:	I'm very happy; I love the people I work with. I don't have any real problems here.

Colleagues shared similar feelings to the individuals with cerebral palsy with regard to the individual with cerebral palsy's perception of the work place.

WC1:	I believe he is happy and I'm sure that he knows we appreciate everything he does.
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WC2:	He loves being part of a busy environment where there were lots of people around him and gave him something to do that was a satisfying result.
WC3:	I think she enjoys it. She flourishes well in the department.
WC4:	He loves his job because it gives him purpose and he is proud of what he does.
WC6:	She's very settled there. She's very happy.

Perceived job satisfaction can lead to an increased self-esteem and better overall quality of life (Ballin & Balandin, 2007). Positive experiences in the work place can also be a result of financial gains, social participation, and personal fulfilment; all of which are important matters for adults with cerebral palsy (Vogtle, 2013). Many of these areas were described as opportunities of employment by individuals with cerebral palsy in this study.

8. “I have a mental aversion to speaking to strangers on the phone”: Using a telephone

For individuals with cerebral palsy, the use of the phone was widely discussed. Difficulties understanding an individual with cerebral palsy over the phone may be due to decreased speech intelligibility (Pennington et al., 2005). Some individuals with cerebral palsy in this study discussed feelings of nervousness when speaking to unfamiliar people on the phone. One individual (P3) even stated that her previous employer told her that she was not allowed to answer the phone while working.

P1:	This has been a phobia that I've had since childhood. Due to my slight speech impediment I have a mental aversion to speaking to strangers over the phone, this stems from an irrational fear of not speaking clearly and causing them undue frustration. Therefore I prefer to speak to people in face-to-face meetings or correspondence via email or social media.
P2:	If its people I know then I'm fine because they understand me but if I don't know [them] it's more difficult and sometimes they hang even hang up on me because they don't understand me.

R:	How does it make you feel if people hang up on you?
P2:	I find it funny but in proper life it's not right. I do understand why they do it because they are not used to me.
P3:	I've had to learn to speak slower and pronounce my words more clearly. Sometimes people on the other end don't hear me. I get very nervous, my heart's like mm-mm (thumping sound).
P3:	My previous boss said we will employ you but you can't answer the phone.

Colleagues' descriptions of understanding the individuals with cerebral palsy over the phone varied. Some colleagues experienced little difficulty understanding the individual with cerebral palsy over the phone as they were accustomed to the way they spoke. When asked why clients often hang up the phone on the individual with cerebral palsy, one colleague (WC3) discussed that it was not the individual with cerebral palsy that was hard to understand, it was that clients do not understand the process of attaining the correct documents that they require and therefore get frustrated and hang up. This was noted as a common occurrence in their work place amongst all individuals. Other colleagues had more difficulty understanding the individual with cerebral palsy over the phone and opted for sending messages via a cell phone or computer, or even voice notes, instead.

WC1:	Sometimes it's more difficult than others. I like to leave voice notes because then if there is a time when it's unclear at least I can listen to it again.
WC2:	He's quite hard to understand on the phone but you can understand him if you listen.

9. "I can do just about anything on it": Embracing technology in the work place

All individuals with cerebral palsy in this study required a computer or laptop for their daily job tasks and used smartphones for employment requirements and/or personal use. One

individual (P4) used an Android Tablet. These devices provided positive social and employment experiences for individuals with cerebral palsy. The use of these devices provided the individuals with self-empowering and self-advocating skills.

P4:	It's my life, the only way I can communicate and generate an income.
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9.1. “It allows me to do so much”: A computer/laptop vs writing

The individuals with cerebral palsy in this study were required to use computers or laptops for everyday job tasks, such as emailing or typing up reports. Individuals required different adaptations in order to use their devices more effectively. These adaptations are outlined in Table 18.

Table 18

Adaptations to computer/laptop devices to increase effectiveness of usage

Participant	Adaptation
P1	Touch pad instead of a mouse as it is easier to use.
P2	Uses right big toe to type and has adapted his wheelchair and his desk to enable him to have the screen at eye level. The keyboard attaches to a tray at the bottom of his wheelchair.
P4	Uses head pointer to type and uses Windows mouse keys in accessibility options in Windows. Has tray that attaches to wheelchair so he can use his laptop when he is not at his desk.

Individuals with cerebral palsy who made adaptations to their computer/laptop (P1, P2 and P4) discussed difficulties using a mouse and had to use an alternative method. All individuals with cerebral palsy discussed the importance of using a computer in the work place.

P1:	I type slowly but I can type basically like a normal person. Only difference being I can't type using all fingers independently.
P2:	I use my foot so it takes longer to type. I get very tired because my leg is always in the air. So if I get really tired I ask someone to type for me. But the computer allows me to do so much, communicate, Facebook, graphic design. I can do all my work so it allows me so much independence.
P4:	The good thing is I can do just about anything on it and the only hard thing I found is that using the mouse keys is a bit time consuming.

Most colleagues provided positive feedback for the individuals with cerebral palsy's abilities and skill level with using a computer or laptop.

WC1:	He doesn't take long to reply. If I compare the amount of time it takes for him to reply to something then he must be good
WC2:	He is excellent [on the computer].
WC4:	He has been using a computer since he started school and has been using one to get himself through his schooling career as it's the only way he could write and communicate

Other individuals with cerebral palsy (P3 and P6) who were able to write by hand identified that they preferred to type rather than write as it was easier. Participant 6 discussed difficulties with visual perception when writing and found it difficult to form letters. All three individuals with cerebral palsy found writing to be time consuming and strenuous.

P3:	I'm actually better at typing than writing. I prefer to type. Then when I'm on the phone I have to type because I can't hold a piece of paper and write.
WC4:	He struggles to write. His computer skills are 50/50 but he has improved. He's not scared of the computer anymore.
P6:	When I first learnt to type it was very hard. It took me long. And I remember that it was very, very upsetting. But now it's like second nature.

I find teaching writing quite difficult, I battle with the space and proportion. I mean I see good writing but I don't know why it's good. I battle with those sort of spatial relationships just as much as the kids.

9.2. Using a smartphone

Individuals with cerebral palsy reported using their cell phones, all of which were smartphones, for making calls, sending Short Message Services (SMS) and WhatsApp messages, sending emails and for social media, such as Facebook. The use of cell phones for social purposes was noted. The desire for a cell phone seemed to be associated with wanting to fit in with peers and colleagues. Two individuals with cerebral palsy (P2 and P4) use a Bluetooth keyboard that is connected to their cell phone to enable them to type with the right big toe (P2) or head pointer (P6).

- | | |
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| P1: | I've had to send a phone [cell phone] back before as the keys were too small. I need to use a phone with decent size keys. |
| P2: | I go on Facebook and WhatsApp every day on my phone. I type with my foot. |
| P3: | I actually prefer to send WhatsApp messages than to phone and speak. |
| P4: | The only difficult thing is speaking on it otherwise I can basically do anything with it. |

The role of the cell phone for individuals with cerebral palsy in this study was therefore for entertainment and to provide a method of socialization and interaction with colleagues. Phone communication is effective in enhancing communication with other individuals and maintaining relationships (Ballin & Balandin, 2007; Fees, Martin, & Poon, 1999).

10. “They are very helpful”: Relationships in the work place

Most individuals with cerebral palsy in this study described their relationships with their colleagues as positive; however, a smaller number had experienced negativity in colleague relationships. These negative relationships stemmed from attitudinal barriers whereby other colleagues who had a negative attitude towards people with disabilities would stereotype all individuals with cerebral palsy as having an intellectual disability based on their physical appearance or slurred speech (McNaughton et al., 2002).

P1:	I generally get along with everyone. There are frustrations and disagreements but that’s just part of normal working life and do not relate directly to my cerebral palsy.
P2:	I get on with them because they know about cerebral palsy and they don’t really care about disability.
P3:	I have a very close friend and we do everything together. She sees that I’m upset and she comes and takes me aside and speaks to me and things like that. And then I have other colleagues that are just like get things done, sarcastic comments, and then other colleagues who I don’t really spend much time with because we just haven’t built relationships.
P5:	I’m a good person to them. We play around.
P6:	A good relationship and they are very helpful.

One individual with cerebral palsy (P1) reported that at his previous employment, colleagues would address questions and concerns to his caregiver rather than to himself thus not allowing him the opportunity to form relationships due to inappropriate communication systems. Appropriate communication systems will support social interactions as well as nurture the development of social contact with the communication partner (Ballin & Balandin, 2007).

Most colleagues in this study viewed their relationships with the individual with cerebral palsy as positive. They attributed this to the ability of the individual with cerebral palsy to successfully do their job and contribute to their employers.

WC1:	I think we have a very good working relationship. I know that I can pick up the phone and chat to him on a personal level and if I have something I want him to look over personally I know that he would do that. I think we have a good relationship.
WC2:	They [colleagues] really enjoy having him there. They are all in wheelchairs [sport] so I don't think they had a problem there. It was automatic acceptance. We have an excellent relationship.
WC3:	Very good, we get on very well. We think a lot alike and have each other's
WC6:	back which is nice. She's a good colleague to have. There are no barriers between us at all.

Despite individuals with cerebral palsy and their colleagues in this study forming adequate relationships, there have been instances where their communication was hindered due to altercations that occurred in the work place. It is important for Speech-Language Therapists to gain an understanding of how the individual's disability impacts quality of life (Buntinx & Schalock, 2010) and this shows a need to provide support and training in communication for individuals with cerebral palsy who have communication difficulties and their partners.

11. "I learnt many skills there": Social participation in activities

A recurring theme that emerged was that most of the individuals with cerebral palsy in this study attributed skills they have gained to outside social or sporting activities, such as taekwondo (P1), sport for disabled individuals (P2), horse riding (P3), and gym (P6).

P1:	My symptoms of cerebral palsy have lessened with physical training, I really
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	recommend it.
P3:	Horse riding did a lot for me emotionally, physically to cope with the pressures of the world. It helped me to plan, time management; I learnt all of that from riding.

All these individuals with cerebral palsy discussed the advantages of their particular interests and the positive impact it had on their social skills which indirectly enhanced their employment skills. These social activities further enabled the individuals with cerebral palsy to maintain social networks with other individuals who have similar interests. Adults with cerebral palsy who are lonely may benefit from support in maintaining social networks (Ballin & Balandin, 2007).

12. “Employment opportunities are rare, sometimes even non-existent”: Barriers to employment

12.1. “It’s on the second floor of the building so I can’t get in there”: Accessibility

Accessibility has been reported as a barrier to successful employment in many research studies (Binks, Barden, Burke, & Young, 2007; Colver, 2012; McNaughton et al., 2002) Individuals in this study shared this view and discussed accessibility as a barrier to employment.

WC2:	Many times they’ll say oh a wheelchair, you know the doors are a bit narrow or we’ve got shelves here so that won’t work.
P2:	Apart from the bathroom, most of the offices don’t have lifts. I can’t get up the stairs. So why would they employ someone who can’t get up the stairs. That is a big challenge, the stairs and the bathroom.
P4:	[I couldn’t find employment because] they kept declining me because none of them were wheelchair friendly

One individual with cerebral palsy in this study was unable to access his office as the building did not have stairs and he was therefore required to work from home. He overcame this challenge by keeping in regular contact with colleagues. This helped him to successfully carry out his job tasks from home. It is clear that the employer of this individual considered the disability, but the assumption of what the individual with cerebral palsy needs is evident.

P1:	It's on the second floor of the building so I can't get there but it doesn't really matter. Because of the nature of my job all I need is a computer and internet connection. But I'm still in constant contact with my colleagues over the phone.
R:	Would you prefer if you could go into the office?
P1:	That's something I wonder about because there are days when I wish I could be in the office but then there are days when I'm pretty sure that if I got into the office within a week I'd be thinking that I like working from home.
WC1:	I think this is the unfortunate thing about our offices. We are on the first floor and we don't have the facility [elevator] but what I appreciate about our company and what the managers have done is given P1 a situation where he is comfortable and he can still work. I mean they could have easily said you know 'we don't have the facility, you not good for the position'. But it's a compromise. But I think employing someone you do need to consider this; everyone has the right to work in a comfortable environment.

When asked if he thought things would be different if he did not have cerebral palsy, one individual with cerebral palsy felt that accessibility and the perception of others would be better. The ICF (World Health Organisation, 2001) views contextual factors as an important part of an individual's functioning. The ICF promotes inclusion in contextual factors such as the individual with cerebral palsy's environment and access to facilities (World Health Organisation, 2001). As cerebral palsy is life long, environments should be adapted so that

participation for individuals with cerebral palsy is not hindered (Andersson & Mattsson, 2001).

P2:	I would think it would feel different if you are able bodied because people would look at you different. They wouldn't look at my cerebral palsy and they see that I am disabled, automatically they think too much hassle because we don't have a disabled bathroom or whatever, so I think if I was able bodied it would be more easy to get people to accept me.
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12.2. “It takes a while to get used to a person with cerebral palsy”:

Communication

The communication of an individual with cerebral palsy in the work place was a common theme that emerged and was discussed in detail. Most of the individuals with cerebral palsy and their colleagues viewed this as a barrier to successful employment.

P2:	They didn't understand me at first; it takes a while to get used to me.
P5:	Even my mom has to listen to me very carefully.
WC1:	In the beginning it took some getting used to because with the communication it was a bit difficult because you can't always hear exactly what he's saying.
WC2:	It obviously takes a bit of getting used to in the beginning, but it's like anything, you don't see it after a while. He just becomes a part of everybody.
WC4:	My understanding is lacking, especially if he is passionate or excited about the subject, same goes for other people too. Intellectually they are on par with able people; their only barrier in my opinion is sometimes communication.

Communication is important as it “underlies all aspects of life; it supports increased educational achievement, enhanced employment options, greater community inclusion, and improved quality of life overall” (Light & McNaughton, 2013, p. 301). Communication in the work place is critical to employment success and many individuals with cerebral palsy have

difficulties with this (McDermott et al., 2007). There are many interrelated factors that could contribute to communication difficulties; these include decreased intelligibility which leads to a lack of understanding, the lack of early intervention, the lack of Speech-Language Therapy as adolescents and adults, and a lack of training of colleagues.

12.3. Getting to and from work: Transport

Individuals with cerebral palsy in this study had varied methods of transport and faced various challenges with their specific method of transportation which impacted on their employment, and participation in the work place (McNaughton et al., 2002).

P2: Transport is everything. You have to wait until someone can fetch you.
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Three individuals with cerebral palsy in this study relied on family members or friends to assist with transportation and one individual with cerebral palsy was reliant on public transport. The main difficulty with transportation was having to wait for transport to be available which wasted time. Two individuals with cerebral palsy in this study drive. Both discussed difficulties with the long process of learning how to drive and how it was more difficult for them than individuals without disabilities due to differences in muscle tone. One individual with cerebral palsy (P6) reported that she was only able to drive an automatic car, which cost considerably more than a manual car, and was not offered any reimbursements that individuals in wheelchairs are offered.

P3: I came home and then my mom started teaching me how to drive. So I drove on the field for a year and then I failed my learners three times and I had to get someone to go through the questions and answers with me. And then I passed, then I drove for a year with the driving school. And then I got my driver's license on the second try. And then after that it took me two years to have the confidence to drive on the freeways.
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12.4. The need for support in the work place

Although based in competitive employment, three individuals with cerebral palsy (P1, P2 and P4) required support in the work place. This support was provided by family members or caregivers. It is important to note that support was not provided for individuals with cerebral palsy in this study to complete their job tasks but was required for mobility, transport and to assist with activities of daily living, such as personal care, using the toilet or preparing or eating a meal.

WC1:	He's the best at what he does so nobody needs to help him with his job.
WC3:	She has the support of the entire practice. She has a good support system.
WC5:	We help him if we are there. We authorise, write for him, interact with the customer. We'll pack his stuff for him as well.
P6:	If I do say to them, you know, can someone come help me with this they are more than willing to pop over and lift a box or straighten a picture.
WC6:	She does come and ask [for help] but very often I will volunteer.

Individuals who required a caregiver stated that it is critical to employment success, however finding a person who fits the criteria and is willing to do the job was found to be a challenging task. It was also noted that employing a caregiver was a large expense.

WC2:	It's very difficult to find someone [a caregiver] who will stay and that will be honest.
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12.5. "They think too much hassle": A lack of opportunities for individuals with disabilities

Although there is legislation in place in South Africa; such as the White Paper on Integrated National Disability Strategy (South African Government Information, 1997) and the Promotion of Equality and Prevention of Unfair Discrimination Act (Department of

Labour (2002), to promote the inclusion of individuals with disabilities in the work place, there are still numerous individuals with disabilities unable to find employment due to the lack of opportunities. Thus individuals with disabilities are being excluded or overlooked when it comes to hiring for employment.

It was unanimous for individuals with cerebral palsy in this study that there was a lack of employment opportunities which derived mainly from a lack of reliable information about disabilities and a lack of adequate facilities. Many individuals with cerebral palsy felt that potential employers would not offer them an opportunity because of their disability or felt that it was “too much hassle” to employ a disabled person. Individuals with a disability have the right to earn an income which is sufficient for covering their day to day necessity expenses (Matthews & Matthews, 2012). Finding employment was discussed to be the biggest challenge that individuals with cerebral palsy face.

P1:	It's been my experience that corporate employers seek to appear as though they care about inclusivity in the work place, while doing everything they can to avoid it in reality. This means employment opportunities are rare and sometimes non-existent.
P2:	Don't give up because it's really difficult to find work and people won't always give you a chance, so don't give up.
P3:	Finding a job is very difficult. About a month ago I went to my boss, they had an internal position. I sent my CV to my boss with all the tasks that I've learned how to do. It was like an A4 page and I got a rejection letter. And then I saw two able bodies walk in for the position and they get training. So why can't they train me? I was very upset. I'm still trying to figure in my head how to deal with it.
P5:	I have to say on my CV that only one hand is working so they don't have a problem when they see me...they told me they don't take cerebral palsy people.
WC2:	When you see a CV you don't see a person, you see a wheelchair and

difficulties.

The rate of unemployment in South Africa is high. It is difficult for an able bodied person to find employment but even more so for individuals with disabilities (Adnams, 2010). Individuals with cerebral palsy are left to find employment for themselves as all individuals with cerebral palsy indicated that they were not assisted with finding adequate employment by their school, tertiary institution or their health care professionals. Some individuals with cerebral palsy were assisted by their family and others had to find employment completely unassisted. Literature highlights the importance of the role of the school and government in assisting individuals with disabilities to find employment (McNaughton et al., 2002; Liptak, 2008; Department of Higher Education and Training, 2013); however the individuals in this study seem to have had to undertake the responsibility on their own. Participant 6 stated that she thought it was “important for government to create opportunities for individuals who have the skills to be employed”.

12.6. “I’ve discovered we just don’t know much at all”: A lack of education about cerebral palsy

Models for understanding disability have been put in place in South African legislation to address the change in society’s views on individuals with disabilities and to acknowledge their rights and social, physical and emotional well-being as well as their material well-being which includes work and employment (Buntinx & Schalock, 2010). Individuals with cerebral palsy in this study felt that there was a lack of education about disability in South Africa which directly affected employment outcomes. Accurate information about individuals with disabilities has a positive impact on the attitudes of individuals without disabilities (McNaughton et al., 2002).

South Africa currently uses a socio-political model as an approach to disability management (Van Staden, 2011). The socio-political model was originally designed around the social model and it led to many important policies which prioritised the choices around disabling barriers with a strong emphasis on human and civil rights (Albert, 2004). Individuals with cerebral palsy in this study were in agreement that there is a lack of understanding of disability which made it difficult to find employment or participate in social activities and that stereotyping about stigmas relating to disability were evident. This contradicts the socio-political model that was put in place and which emphasises equality and accessibility.

P6:	I think some of the problems here in South Africa is that people don't really understand disability, they either think that you are completely disabled and you are sort of drooling in a wheelchair or you are not disabled at all.
WC6:	I think if there was more awareness about cerebral palsy that it's not necessarily a brain damaging thing, it could just be physical, it's not to say that they can't do the job if they are qualified.

Some individuals with cerebral palsy found that individuals without disabilities were more understanding and friendly towards them after they had more interaction with them and thus had a better understanding of the individual with cerebral palsy.

P1:	When I used to work in an office it took a bit longer for them to talk to me and say hi, how are you, because they see me as an incapable person.
P2:	After they got used to me they saw me as a normal person.
P3:	I would like to educate them more.
WC6:	I've always perceived it as being worse than she has got. You know sort of more disabled than what she is. Since meeting her I've realised that there are varying degrees...I don't think there is enough information out there about cerebral palsy. I think people's perception is if you're in a wheelchair you can't

speak or anything. They seem to see that just because you are in a wheelchair you haven't got a brain.

Colleagues' feelings towards understanding cerebral palsy and disability varied. Some colleagues had a lack of understanding and preferred to accept the situation as is, however it is questionable that this is full acceptance of the individual with cerebral palsy. There is a positive impact on individuals without disabilities in the acquisition of accurate information about individuals with disabilities (McNaughton et al., 2002).

WC3: I've never asked any questions. I've just accepted the situation as is. So I'd be lying if I said I knew. I don't know much.

Other colleagues indicated that although they did have an understanding of cerebral palsy there was still a lack of understanding as the spectrum of cerebral palsy is so wide and individuals can present with a number of different characteristics. These colleagues found that asking questions about cerebral palsy was the best way to gain an understanding and valuable information.

WC1: I would encourage people not to underestimate a person just because of what they look like. I would encourage them to try understand what the disability is and how it works for that person that they'll be dealing with, because although you might have ten people with cerebral palsy every single person is different...ask the person do you mind if I ask you questions every now and again just to understand the condition.

WC2: The spectrum of cerebral palsy is just so huge and I think at the end of the day we know so little about the brain. At the end of the day I've discovered that we don't know much at all. We've come a long way in the last 20 years but we do still have a long way to go with the mindset of people.

Functioning of an individual affects the way people view individuals with disabilities and obtaining equal rights for individuals with disabilities is in line with the social model (The United Nations Children’s Fund, 2007). The ICF describes participation in society as integral to optimal functioning and well-being (World Health Organisation, 2001). The rights for people with disabilities were put in place in order to promote inclusion and prohibit discrimination.

13. Opening new doors: Employment opportunities

13.1. “I can pay for mostly everything myself”: Financial independence

Employment and independent living is highlighted as an important area by the ICF (World Health Organisation, 2001). There are several contributors to independence which are interrelated to the end goal, which in the case of this study is successful employment. Employment is seen as an expression of one’s personality in society as it allows an individual to gain independence (Bertazzi, 2010). Completing formal education, entering the work force, being financially independent, and enjoying group social interactions are important predictors for being a successful adult (Liptak, 2008). For individuals with cerebral palsy in this study employment is a form of financial independence and self-esteem. It is important to note that although all the individuals in this study are employed and financially independent, only one individual with cerebral palsy is independently living.

P1:	Having a job means that despite my cerebral palsy I can be independent to a large degree, I can pay my own bills and live as I see fit.
P2:	I feel great because I can take care of myself and have a social life. I don’t have to depend on other people.
P3:	I can pay for mostly everything myself. I managed to pay my car off in like three years. I can buy my own things.
P5:	I’m happy I can help my mom pay for stuff.
P4:	I feel proud of myself that I know that I can earn my own income.

P6: Well I'm independent. I can handle my financial life on my own. I can afford the things I need without having to rely on family and friends.

13.2. "I got to know people I never thought I would get to know": A social aspect

Employment is seen as an expression of one's personality in society as it allows an individual to socialize with a variety of people (Bertazzi, 2010). For some individuals in this study, employment was a chance to interact, and establish and maintain social connections. Literature states that despite adults with cerebral palsy having a level of independence in activities of daily living, mobility, and communication these individuals are often poorly integrated socially in employment (van der Dussen et al., 2001). Some individuals with cerebral palsy contradicted this view and felt that they were better integrated socially because of their employment. Work place supports from colleagues, employers and social interactions improve networks of communication (McNaughton et al., 2002).

P1: Because I have quite a public vocation I have become well known and respected.

P2: The big one is I get to know people who I never thought I would get to know. I got to know people from all over the world. I got some amazing opportunities that I never thought I would have before.

13.3. "I feel needed": Becoming a contributing member of society

An essential component of successful aging for adults with developmental disorders, such as cerebral palsy, is the opportunity to be a contributing member of society (Hawkins, 1999). Individuals with cerebral palsy in this study paralleled this view. Employment provided financial security, but more importantly it also provided a sense of belonging in society. It is important to individuals with cerebral palsy to make a positive contribution to society (McNaughton et al., 2002).

P2: I feel useful. I think every single person wants to feel needed and useful. So for me to work, I feel needed because I can give something to someone for them to have.

13.4. “How do you walk through life using your disability”: Sharing information about cerebral palsy

The socio-political model emphasises that individuals with disabilities should be sharing information in order to bring about change in their social environment (Van Staden, 2011). Individuals with cerebral palsy in this study discussed opportunities of being able to share information when asked. This was noted to be an important factor in educating individuals about cerebral palsy.

P3: I’ve had some exciting experiences in the fact that people have come to me and asked me how you go through life, how do you walk through life using your disability, or just being able to share with people.

P6: My boss is an amazing woman, she’s very kind and open minded. But I educate them all the time. She’s always been very open minded. She’s always seen me as a normal person and not disabled which I really appreciate.

Colleagues found that they were able to learn more and gain a better understanding of cerebral palsy when they felt comfortable to ask the individual with cerebral palsy questions. This aided in reducing negative interactions in the work place.

WC1: Ask the person, do you mind if I ask you questions every now and again just to understand the condition.

WC2: I think the thing is you mustn’t be afraid to ask questions. Don’t be afraid to ask if he is going to fall out his wheelchair, if he’s going to choke on his food or how does he drink something. There’s no such thing as a stupid question because if you don’t know something you need to ask. I think that cerebral palsy people should open up to be helped; if you need it you need it.

WC4:	Keep the lines of communication open, so that if anything bothers you or them, both parties always feel like they can talk to each other.
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The ability to share information had a positive impact on both the individuals with cerebral palsy and their colleagues. Providing employers, colleagues, and society with “accurate information about individuals with disabilities appears to be a step in the right direction” (McNaughton et al., 2002, p. 72).

13.5. “Proving them wrong is my biggest achievement”: Improved self-perception in the work place

Perceived life satisfaction is an important element for successful living for adults with developmental disability, such as cerebral palsy (Hawkins, 1999). Individuals with cerebral palsy in this study responded positively when asked how they feel about being employed. For many individuals employment is a form of self-esteem (Blackorby & Wagner, 1996). Individuals felt a sense of self-achievement with their employment which contributed to increased self-perception. The need to be employed and fulfil personal expectations is important to individuals with cerebral palsy (McNaughton et al., 2002).

P4:	I feel proud because I achieved what I wanted to do. And just to think of how many people who have said that I won't be able to do it, proving them wrong is the biggest achievement in my eyes.
WC4:	He loves his job because it gives him purpose and independence and he is proud of what he does because he has built his two businesses from the ground by himself.

Some individuals with cerebral palsy in this study found self-perception to be an important predictor of employment as it was found to influence feelings of self-worth. Meeting personal goals in employment can have a positive impact on the individual with

cerebral palsy's self-esteem (McNaughton et al., 2002). Self-perception and self-esteem are interconnected with employment. Individuals with cerebral palsy will need to feel confident in order to increase their self-esteem and establish social connections (Haynes et al., 2012).

P6:	I think the main challenge is often how you perceive yourself. If you perceive yourself as an ordinary person, you set yourself ordinary standards. I think it [being employed] has done a lot for my confidence. And I think until you work for yourself you don't really grow up. You can't have a normal adult life if you can't get a job.
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13.6. “Don’t underestimate a person just because of the way they look...you will be surprised”: The impact of employing an individual with a disability

Positive experiences in the work place was a common theme in this study and led to colleagues sharing optimistic views on the impact of employing an individual with a disability. In this study individuals with cerebral palsy were found to have high levels of motivation and commitment to work. McNaughton et al. (2002, p. 67) reported that individuals with cerebral palsy had personal characteristics such as “a strong commitment to employment, hard work, determination, persistence, and good time management skills” which were crucial to securing full-time employment. Individuals with cerebral palsy in this study were comparable and colleagues shared the positive impact of the role of employment for the individuals with cerebral palsy.

WC1:	It's definitely a good impact having him work here.
WC2:	It has a great impact on the sport in the fact that he has been able to sign up some new players but I think its impacted the players more by giving them an interest and something to do other than sit and do nothing.
WC3:	She has a proper role. It was something the receptionist used to do but then because we so busy and she does it so well I gave it to her. So that's her baby and she flies with it. And because she enjoys it, she's so good at it and that also

motivates her to want to do it.

WC6: I feel it is a good impact because it teaches the children that even if you do have a disability it doesn't mean that you go sit in a corner and cry, you know; you can still get out there and hold a job and be a proactive part of the community. It's very good for the children to see and to make them aware of others.

Most of the colleagues in this study would encourage the employment of individuals with cerebral palsy and advocated for the right of individuals with disabilities to be employed.

WC1: The main thing is definitely do not underestimate a person just because of the way they look or the disability they have because you will be surprised.

WC2: If you decide they can do the work they deserve a chance.
I promise people, you are missing out on good workers because these guys work double the time because they need the work, and they want to work, and because it's so hard to get work. So very often you will find a very dedicated worker in a CP person who can do the job. Give them a chance. You've lost nothing and you are going to gain so much from a human element. You're going to learn so much just about being a human person.

WC3: I think it's just understanding the person. It's trying not to make them feel different because that's the worst thing you can do.

WC4: Treat them the same as everybody else, to make sure they are in a comfortable working environment and that they have the correct allocated time to do the job, and not let the disability be the focal point.

WC6: I would encourage it, as long as they are were capable and qualified to do the job. I don't see any reason why someone with cerebral palsy shouldn't be employed.

14. “Don’t let your disability stop you”: Paving a road to successful employment

In theory and policy (South African Government Information, 1997; Department of Education, 2001; Promotion of Equality and Prevention of Unfair Discrimination Act, 2002; Department of Women, Children and People with Disabilities, 2011) South Africa implements the principles of inclusion in education and employment yet this is not the case with individuals with cerebral palsy who were involved in this study. South Africa has adopted a socio-political model whereby support and leadership are provided at a political level but it is driven by individuals with disabilities in order to develop peoples attitudes and decrease the stigma attached to disability (Van Staden, 2011). This model is utilized as individuals with disabilities are the ones impacted by hindrances which are lessened by their social environment (Van Staden, 2011). By using the ICF framework in South Africa we need to implement policy changes in order to increase individuals with cerebral palsy’s participation and inclusion in education, employment and society. If the ICF and other policy changes were successfully implemented then a biopsychosocial model could be applied so that individual experiences could be used to educate others and improve the facilities and environments for individuals with disabilities. This research study is an example of this.

A way forward would be to fully include individuals with cerebral palsy in schools and tertiary institutions and to encourage employment using each individual’s specific strength. Quality education is an essential factor in preparing for successful employment (McNaughton et al., 2002). In addition to this, individuals with cerebral palsy should be considered for mainstream education as those who have been educated in a regular classroom environment have better employment outcomes (Blackorby & Wagner, 1996). Better preparation for the working world should be implemented. This can be done by offering vocational courses either as part of school requirements or as an extra course after the schooling period. Both the

government and organisations for individuals with disabilities should offer these courses. This will enable a smoother transition into the working world.

Vogtle (2013) stated that individuals with disabilities should advocate for themselves. This is in line with the socio-political model that South Africa utilises. Individuals with disabilities should be given the opportunity to prove their employment abilities, the public should be educated to dismiss myths about people with disabilities, legislation and policies about individuals with disabilities should be enforced more thoroughly, income that is spent on caregivers and assistive technologies, such as AAC, should be non-taxable, and lastly personalised vocational rehabilitation systems should be put in place (McNaughton et al., 2002).

Speech-Language Therapy should be implemented from early on in life and continue as a support system until successful communication in the work place is achieved. Assessment at different stages of life would determine the need for intervention as well as guide the type of intervention provided by the Speech-Language Therapist. Preparation for adult life can also be achieved by providing children with appropriate supports to develop communication and interpersonal skills which are necessary for completing important activities (McNaughton et al., 2002). Figure 4 depicts the continuum of events that should occur in order to successfully implement changes in the individual with cerebral palsy's life.

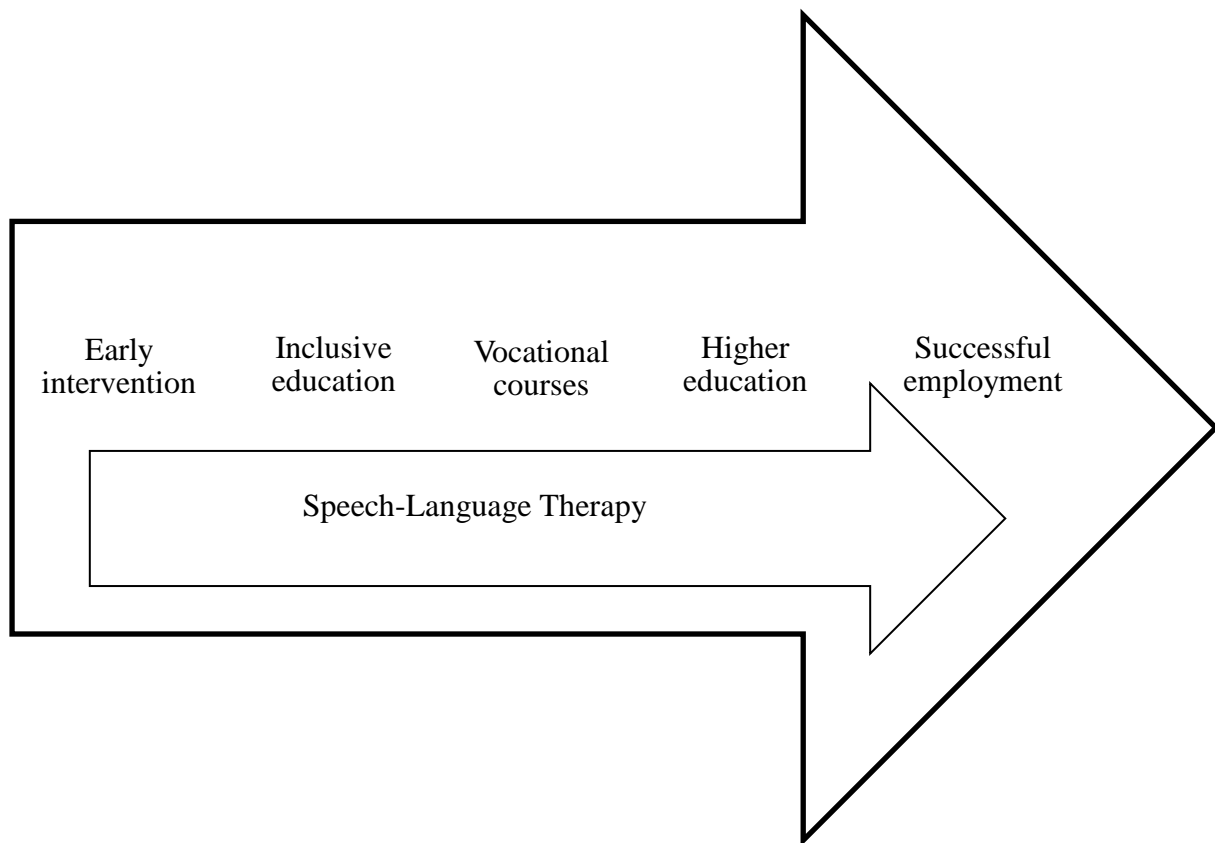


Figure 4: The Road to Successful Employment

Overall, individuals with cerebral palsy in this study described positive outcomes of employment experiences. Individuals with cerebral palsy felt that they had achieved their personal goals of employment and could be an example for other individuals with disabilities who are hoping to gain employment. This is shared with the anticipation of improving the lives of others with disabilities. Sharing information is in line with the socio-political approach South Africa uses for disability management in which individuals with disabilities advocate for themselves (Van Staden, 2011).

- | | |
|-----|---|
| P1: | Having cerebral palsy doesn't mean life is going to be easy, you need to be willing to work for the stuff you can have. It is possible to lead a pretty much normal life. |
| P2: | Don't be afraid to try something new. Don't let your disability stop you. Some people think that you can't do that and I often say, why not because disabled |

people are normal people just with a disadvantage. And I tell people everyone is disabled but you see my disability more than others. So what is different from me and you? Nothing is different. So don't feel like you can't work because of your disability. You can work.

P3: Don't let people put you in a box. Always try to prove to them that you can do as much as you can. Try to be as independent as you can. And don't give up.

P6: One really has to look at what their strengths are. One has to be honest with oneself. What do you do well? ...So there's a need to be realistic about where strengths are and they very often are intelligent and they do have interests and strengths, and just because your muscles don't work adequately doesn't mean you don't have an intellectual capacity. You've got to look at your ability and go from there. They need to be realistic because it's not nice to be in a job you can't do, even if you are a normal person.

Cerebral palsy results in unique and individual challenges which require “diligent, organized, long-term planning on the part of multiple professionals” (Vogtle, 2013, p. 1). Results from this study indicate that Speech-Language Therapy services have been primarily child-centred; however this role needs to evolve and attention needs to be provided at all age and/or stage levels. There needs to be a refocus on the needs of adolescents and adults with cerebral palsy to support them in achieving successful employment (Vogtle, 2013).

Summary of Chapter

Chapter Four highlighted the main themes and the sub-themes that emerged from the data. These were reported and discussed qualitatively in comparison to relevant literature. This chapter also provides information pertaining to the aim and objectives of this study that were outlined in the methodology.

The speech characteristics of individuals with cerebral palsy in this study varied widely however, all individuals presented with difficulties which affected different speech

sub-systems. Five individuals presented with characteristics of dysarthria, one of whom had severe dysarthria used AAC. The use of AAC in the work place by one individual with cerebral palsy was useful for communicating to colleagues he was familiar with; however, he preferred the use of emails or cell phone messages when communicating with unfamiliar listeners.

Communication breakdowns were common amongst individuals with cerebral palsy and their colleagues. Most of the individuals with cerebral palsy had developed strategies to overcome this, such as repetition or explaining in another way. Colleagues were accustomed to these strategies and were seen as having positive reactions and being understanding in those situations. Individuals with cerebral palsy's feelings about being misunderstood varied and some individuals felt frustrated while others found that they did not mind having to repeat themselves. Within the ICF framework, participation is an important component of daily functioning (World Health Organisation, 2001), and for the individuals with cerebral palsy in this study communication breakdowns can affect job performance. Communicating in a group conversation led to feelings of nervousness for individuals with cerebral palsy and they were all in agreement that one-on-one communication was the preferred method. Limited involvement in a group conversation or meeting may limit the individual with cerebral palsy's participation and integration into daily life activities and the aim should be to maximise communication for individuals with complex communication needs (Light & McNaughton, 2013).

Difficulties with feeding and swallowing varied amongst individuals with cerebral palsy. Some individuals had developed avoidance techniques to aid these difficulties when eating around colleagues. One individual preferred to eat in isolation. As eating is a social activity, an individual with a feeding or swallowing difficulty will need to feel confident

feeding and swallowing order to increase their confidence and establish social connections (Haynes et al., 2012).

Individuals with cerebral palsy found that Speech-Language Therapy was helpful; however there was a lack of continuation of therapy into adolescent and adult years. This reinforces previous studies which found that there is little known Speech-Language Therapy services for adults with cerebral palsy (Majnemeer et al., 2013). Due to the heterogeneity of cerebral palsy, the abilities and limitations of each individual with cerebral palsy should be described separately for each component of the ICF in order to best manage individual characteristics. Assessments should be conducted at various stages of life. Therefore, the importance of a Speech-Language Therapist to recognize how communication difficulties can affect performance in the work place was highlighted in order to influence goal setting and counselling for both the individuals with cerebral palsy (Haynes et al., 2012) and their colleagues.

Individuals with cerebral palsy had varying levels of education. Some individuals with cerebral palsy experienced barriers to education which was due to generally low expectations society held of individuals with disabilities and the lack of accessibility to education. Transitioning into employment and finding employment were also emphasized as areas of difficulty for individuals with cerebral palsy. Appropriate education and vocational training are important for preparing for successful employment (McNaughton et al., 2002). The ICF (World Health Organisation, 2001) designates employment as activities and participation which are important outcomes for individuals with cerebral palsy. These areas of participation have not been adequately met for the individuals with cerebral palsy in this study as it was found that policies are not yet implemented.

Talking on the phone was a difficult task and many individuals with cerebral palsy preferred the use of emailing or sending messages with their cell phone. Technology usage was found to provide positive social and employment experiences. Negative relationships in the work place were due to attitudinal barriers, however most individuals with cerebral palsy described positive relationships in the work place. Some individuals with cerebral palsy participated in social activities where they felt they had learnt important skills for employment.

Numerous barriers to employment were listed by individuals with cerebral palsy and their colleagues. These included accessibility, communication, transport, a lack of opportunities, and a lack of education about cerebral palsy. Employment opportunities that were highlighted included financial independence, social aspects, becoming a contributing member of society, sharing information, improved self-perception, and the impact of employing an individual with a disability.

South Africa's policies of inclusion in education and employment had not been implemented with the individuals involved in this study. Keeping in line with the socio-political model and the ICF, individuals with disabilities must advocate for change themselves in order to increase people's knowledge about disability. Individuals with disabilities need to be fully included in schools and tertiary institutions in order to better their chances of employment. Vocational courses should also be offered. Overall, results from this study reveal that the Speech-Language Therapists role has been mainly child-centred; however this needs to evolve and attention needs to be provided at all age and/or stage levels. There needs to be a refocus on the needs of adolescents and adults with cerebral palsy to support them in achieving successful employment (Vogtle, 2013).

Chapter Five: Conclusion, Limitations and Implications

This chapter will present the conclusion that was drawn from the results of the study. The clinical implications, recommendations for future research, and the research limitations will be presented.

1. Conclusion

The aim of this study was to explore the full-time employment experiences of individuals with cerebral palsy from the perspective of the individual with cerebral palsy and a colleague of each of theirs, with a particular emphasis on communication. The ICF framework (World Health Organisation, 2001) was used throughout this study. Despite some negative experiences, individuals with cerebral palsy who participated in this study found that employment had a positive effect on their lives and their overall perceived quality of life.

The communication functions of an individual are included in the ICF (World Health Organisation, 2001) and are important in the scope of practice for Speech-Language Therapist (American Speech-Language-Hearing Association [ASHA], 2015). Individuals in this study had varied characteristics in terms of the nature and severity of their communication abilities. Communication interactions in the work place were identified as one of the most fundamental barriers to both gaining employment and employment activities. The individuals with cerebral palsy and their colleagues had adopted ways to repair and maintain conversations which emphasises the importance of training for both the speaker and the listener in the work place. Some colleagues were also not aware of the challenges that individuals with cerebral palsy face when having to communicate in a group conversation or meeting, over the phone, as well as general feelings of frustration about being misunderstood. Some individuals with cerebral palsy in this study had difficulties with feeding which led to avoidance techniques, such as eating in isolation or avoiding certain foods.

It is clear from the data that emerged from this study that the individuals with cerebral palsy presented with difficulties with communication on several levels and would benefit from intervention from a Speech-Language Therapist. Intervention services provided were mainly child-centered and there is little known about the role of the Speech-Language Therapist at different life stages of cerebral palsy, particularly for adolescents and adults. Therapy services which are provided in early adolescence have been associated with participation in higher education by individuals with disabilities, including cerebral palsy (Vogtle, 2013). Speech-Language Therapists should use the ICF framework to guide management of an individual with cerebral palsy and provide intervention at all levels of the ICF.

Individuals with cerebral palsy in this study made use of different forms of technology to communicate both socially and for work purposes. The use of computers or laptops and smartphones was found to be important to the individuals with cerebral palsy as it was their link to employment and helped them to connect to the social world, thus providing the individuals with cerebral palsy with positive experiences. Many individuals with cerebral palsy preferred the use of emailing or sending messages with their cell phone rather than talking on the phone at work.

South Africa has some policies in place regarding inclusion in the education sector and in the employment sector (Department of Education, 2001; Department of Women, Children and People with Disabilities, 2011); however it is clear from the individuals with cerebral palsy and their colleagues in this study that these policies have not yet been put in place at the individual level. Individuals with cerebral palsy faced numerous barriers to employment which made transitioning from education to the working world difficult. Barriers to employment mainly originated from a lack of understanding of disability from colleagues and prospective employers, with particular regard to cerebral palsy, and the stigma attached

to disability. Some colleagues openly admitted to having little understanding of cerebral palsy and other colleagues found that working alongside an individual with cerebral palsy had challenged their views and understanding of cerebral palsy. Individuals with cerebral palsy are crucial in advocating for their rights and sharing information about cerebral palsy.

The ICF (World Health Organisation, 2001) designates employment as activities and participation, which are important outcomes for individuals with cerebral palsy. These areas of participation have not been adequately met for the individuals with cerebral palsy in this study as it was found that policies promoting inclusion in the employment sector; such as White Paper on Integrated National Disability Strategy (South African Government Information, 1997) and the Promotion of Equality and Prevention of Unfair Discrimination Act (Department of Labour (2002), are not yet implemented at an individual level. Within the socio-political model that is used in South Africa, the individuals and organisations involved with disability should advocate for themselves to develop people's attitudes and decrease the stigma attached to disability (Van Staden, 2011). It is important for both the school and the government to assist individuals with disabilities to find employment (McNaughton et al., 2002; Liptak, 2008; Department of Higher Education and Training, 2013).

Cerebral palsy is a life-long disorder that persists from childhood to adulthood with no cure and varied characteristics and levels of severity. The ICF states that optimal functioning and quality of life is affected if the individual's body structure, ability to take part in activities, and participate in society is affected (World Health Organisation, 2001). Functioning can be affected by motor abnormalities and accompanying impairments such as communication difficulties. Communication acts as a critical barrier affecting quality of life for individuals with cerebral palsy and communication in the work place is seen as a vital component to successful employment (McDermott et al., 2007). Intervention provided by a Speech-Language Therapist should be encouraged as the individual enters adolescence and

adulthood, in addition to this the role of the Speech-Language Therapist should evolve in order to advocate for individuals with disabilities across various life stages. It is important for individuals involved in the management of cerebral palsy to know how to best assist and empower the individual in the work place. This research has implications for improving service delivery and employment opportunities for individuals with cerebral palsy.

2. Implications

The results of this study indicate that full-time employment for individuals with cerebral palsy can be successful and is a right in South Africa; however it is also clear that only a small number of individuals with cerebral palsy who are seeking employment have achieved this goal. Given the significant importance of employment and the limited research around the experiences of individuals with cerebral palsy in the work place, further research is required in several areas.

2.1. Implications for Research

Future research into the employment of individuals with cerebral palsy should investigate or explore:

1. The successful experiences of individuals with cerebral palsy who are employed part-time or as part of supported employment or in sheltered workshops.
2. A comparative study of the employment experiences of individuals with cerebral palsy who have intellectual disabilities or other developmental disabilities, as job descriptions and perceptions of colleagues may differ
3. The employment experiences of individuals with cerebral palsy including observation of these experiences in the work place.

4. The employment experiences of individuals with cerebral palsy in other provinces in South Africa.
5. Perspectives of employers, family members, educators, and vocational rehabilitation counsellors to determine the barriers to and opportunities for employment of individuals with cerebral palsy.
6. The role of education in supporting individuals with cerebral palsy in gaining employment.
7. The experiences of individuals with cerebral palsy attending mainstream education in comparison with special needs schools or a school for learners with special educational needs (LSEN).
8. The role of the Speech-Language Therapist in the management of adults with cerebral palsy.
9. The role of the Speech-Language Therapist in supporting employment for individuals with cerebral palsy.
10. The role of the Speech-Language Therapist in facilitating the use of assistive technology in employment.
11. Perspectives of individuals with cerebral palsy on therapeutic interventions received throughout phases over the lifespan and the benefits that intervention provided.
12. The role of other rehabilitative services such as school or vocational training programmes in assisting in the work place.
13. The benefits of social activities in improving social communication of adults with cerebral palsy.
14. The perspectives of individuals with cerebral palsy on issues related to other aspects of life, such as health care, strengths, weaknesses, relationships, schooling, therapies, life experiences, and communicative and social development.

15. The legislation and policies surrounding the rights of individuals with disabilities and whether these are implemented and upheld in the work place.

2.2. Implications for Practice

Employment is critical for financial independence, improved self-esteem and an overall improved quality of life. The results of this study outline various changes to Speech-Language Therapy practice which should be implemented in order to improve the employment experiences of individuals with cerebral palsy. These implications for change in practice are outlined below:

1. Legislation and policies (South African Government Information, 1997; Department of Labour, 2002) need to be better implemented, monitored, and followed up constantly in order to afford individuals with cerebral palsy equal opportunities for employment.
2. White Paper 6 (Department of Education, 2001) promotes the inclusion of individuals with disabilities in mainstream schools. If implemented then it would endorse equal opportunities in academic and vocational training which may have a direct impact on employment opportunities.
3. The provision and development of vocational training, further and/or higher education as outlined by the Department of Higher Education and Training (2013) should be implemented in order to improve access and chances of success for education for individuals with disabilities. This may aid in better employment opportunities.
4. There should be a focus on advocating for Speech-Language Therapy for adults with cerebral palsy and intervention should include aspects such as verbal communication, AAC, and written language, as these directly impact employment. The benefit of

Speech-Language Therapy in assisting with communication barriers in employment should be promoted.

5. Speech-Language Therapists should improve their knowledge on working with adults with cerebral palsy in order to develop treatment strategies and provide adequate management. Speech-Language Therapists could assist with the following:
 - 5.1. Training the individual with cerebral palsy and their colleagues to identify conversation breakdown and how to repair this.
 - 5.2. The use of appropriate augmentative and alternative communication systems and the training of using these systems for the individual with cerebral palsy and their colleagues.
 - 5.3. The use of appropriate prosodic speech features.
 - 5.4. Strategies for communicating over the phone.
 - 5.5. The use of technological devices such as iPads/Tablets, computers and smartphones could be incorporated into intervention.
6. In-service training for employers and colleagues is important in order to gain an understanding of disability and the strengths or weaknesses that an individual may have. This could be done by a job coach or a qualified health professional.
7. Individuals with cerebral palsy should continue to share their experiences with each other in order to promote self-advocacy skills.

3. Limitations

1. Cultural, gender, racial and linguistic variability was obtained in this study sample, however there were limited number of participants representing each of these groups.
2. The age range of the participants with cerebral palsy in this study sample ranged from 23 years to 38 years, and is therefore not representative of the working age range of an adult in South Africa, i.e. 18 to 65 years.
3. This study focused on full-time competitive employment and therefore other types of employment were not considered.
4. The colleagues were only represented by females.
5. Two colleagues were family members, a mother and a sister, and therefore would have different views to a colleague who is not related to the individual.
6. Colleagues were chosen by the individuals with cerebral palsy and may have had positive views to start with.
7. The views of participants may have been influenced by the researcher being a Speech-Language Therapist.
8. As with any qualitative study, the findings of this study cannot be transferred across all adults with cerebral palsy because of the small population size and age range of the individuals with cerebral palsy (Ballin & Balandin, 2007).

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Appendix A: Letter to associations

**DISCIPLINE OF SPEECH-LANGUAGE PATHOLOGY
SCHOOL OF HEALTH SCIENCES**

Telephone: (031) 260 7438

Fax: (031) 260 7622

Email: khumalot8@ukzn.ac.za



September 2015

Dear Association that works with individuals with cerebral palsy

INVITATION FOR ASSISTANCE IN A RESEARCH STUDY

Research study title: The work place experiences of people with cerebral palsy who have communication disorders and their colleagues.

I am a Speech-Language Therapist currently completing a Masters degree at the University of KwaZulu-Natal (Westville Campus). I am conducting research to explore the employment experiences of adults with cerebral palsy in KwaZulu-Natal. I am conducting this research as there is a lack of information in this area in South Africa. With this research I aim to gain an understanding of the types of employment available to people with cerebral palsy, barriers or challenges faced in the work place, and the accommodations in the work place with specific regard to communication and feeding/swallowing from the perspectives of individuals with cerebral palsy and their colleagues. This information will help to raise awareness about the employment of individuals with cerebral palsy as well as what the Speech-Language Therapist can do to assist individuals with cerebral palsy in the work place. Ethical clearance for the research has been granted by the Biomedical Research and Ethics Committee of the School of Health Sciences of the University of KwaZulu-Natal (BREC ref no. BE 030/15).

My study involves interviewing an individual with cerebral palsy and a colleague. Involvement for each participant would include an interview which would last approximately an hour, at a date, time, and venue that is convenient. The interview questions will relate to cerebral palsy in the work place and the experiences with regards to employment history, the type of job tasks allocated, perceptions of self in the work place, communication and social

interaction, adaptations, challenges, and opportunities in the work place. The interview will be video recorded and audio recorded to help with analysis.

Confidentiality will be maintained at all times and the names of all individuals participating in the study or the work place will not be revealed. All participants' names will be coded to assure confidentiality. The data obtained during this study will be stored for five years in a locked cabinet as well as on a password protected computer in the Department of Speech-Language Pathology at the University of KwaZulu-Natal (Westville Campus). Data that is recorded on paper will be shredded and electronic data will be formatted after five years. Participation in this research study is voluntary and participants have the right to withdraw from the study at any point in time without penalty. Refusal to participate in this study will in no way impact on employment status. Participation will not result in employment, a change in employment status, or an increased income.

I kindly request your assistance in obtaining names and contact details of individuals who are members of your organization that may be interested in participating in the study. If you know of people that may be interested then please complete the contact details document that is attached to this letter and return it via email to cpemployment.research@gmail.com or fax to the University of KwaZulu-Natal, Discipline of Speech-Language Pathology on (031) 260 7622 with "Attention: Vivian de Vries" written at the top. I will then personally contact each individual. The individuals and their colleagues can then decide if they would like to participate in the study.

I look forward to your correspondence and will greatly appreciate any information from you. Should you have any queries regarding the research study, please feel free to contact the researcher or one of the research supervisors.

Yours sincerely

Vivian Claire de Vries (Researcher)

Email: cpemployment.research@gmail.com

Phone: 083 262 7593

Ms. Jenny Pahl (Research Supervisor)

BSc (Log) (UCT), MA (Stellenbosch), DipEd (Natal)

Email: pahlj@ukzn.ac.za

Phone: 031 260 7624

Ms. Saira Karim (Research Supervisor)

BComm. M. Comm (UKZN)

Email: karimsb@ukzn.ac.za

Phone: 031 260 7550

If you have any other questions or concerns about my rights as a study participant or if I am concerned about an aspect of the study or the researchers the please contact the UKZN Biomedical Research and Ethics Administration.

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, South Africa

Email: BREC@ukzn.ac.za

Phone: (031) 260 2468

Fax: (031) 260 4609

Contact Details of Possible Participants for Research Study

No.	Individuals with cerebral palsy's name	Email address	Contact number
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Appendix B: Information document, informed consent, and biographical questionnaire to individual with cerebral palsy

DISCIPLINE OF SPEECH-LANGUAGE PATHOLOGY

SCHOOL OF HEALTH SCIENCES

Telephone: (031) 260 7438

Fax: (031) 260 7622

Email: khumalot8@ukzn.ac.za



3 September 2015

INVITATION TO PARTICIPATE IN A RESEARCH STUDY

Research study title: The work place experiences of people with cerebral palsy who have communication disorders and their colleagues.

Dear Sir/Madam

I am a Speech-Language Therapist currently completing a Masters degree at the University of KwaZulu-Natal (Westville Campus). I am conducting research to explore the employment experiences of adults with cerebral palsy in KwaZulu-Natal. I am conducting this research as there is a lack of information in this area in South Africa. With this research I aim to gain an understanding of the types of employment available to people with cerebral palsy, barriers or challenges faced in the work place, and the accommodations in the work place with specific regard to communication and feeding/swallowing from the perspectives of individuals with cerebral palsy and their colleagues. This information will help to raise awareness about the employment of individuals with cerebral palsy as well as what the Speech-Language Therapist can do to assist individuals with cerebral palsy in the work place. Ethical clearance for the research has been granted by the Humanities and Social Sciences Ethics Committee of the School of Health Sciences of the University of KwaZulu-Natal (BREC ref no. BE 030/15).

I kindly request your permission to be involved in my research study. Involvement would include an interview which would last approximately an hour, at a date, time, and venue that is convenient to you. The interview questions will relate to cerebral palsy in the work place

and the experiences you have had with regards to employment history, the type of job tasks allocated to you, perceptions of yourself in the work place, communication and social interaction, adaptations, challenges, and opportunities in the work place. Should you not want to answer any of these questions during the interview, you may ask to skip the question. If a topic brought up in the interview is of concern to you or causes any distress, the researcher will provide you with the details of a Psychologist or Speech-Language Therapist in your area who will then assist you.

The session will be video and audio recorded with your permission. This is to ensure that I don't miss out on any information obtained during the interview and will help me to analyse the data. These recordings will not be seen or heard by anyone other than the researcher and the research supervisors and will be stored on a password protected computer and then deleted after five years.

Confidentiality will be maintained at all times and the names of all individuals participating in the study or the work place will not be revealed. All participants' names will be coded to assure confidentiality. The data obtained during this study will be stored for five years in a locked cabinet as well as on a password protected computer in the Department of Speech-Language Pathology at the University of KwaZulu-Natal (Westville Campus). Data that is recorded on paper will be shredded and electronic data will be formatted after five years. Your participation in this research study is completely voluntary and you have the right to withdraw from the study at any point in time. In the event of withdrawal from the study you will not experience any penalties. Refusal to participate in this study will in no way impact your employment. Participation will not result in employment, a change in employment status, or an increased income.

Participants in the study will be chosen based on different characteristics (race, gender, age, type of cerebral palsy, etc.) as well as different levels of severity. This is to ensure that there is a wide variety of individuals involved in the study. Not all participants who complete the attached documents may be asked to the interview.

Attached is a document of informed consent and a biographical questionnaire. If you are willing to participate, please complete the forms and return via email to cpemployment.research@gmail.com or fax to the University of KwaZulu-Natal, Discipline of Speech-Language Pathology on (031) 260 7622 with "Attention: Vivian de Vries" written

at the top. Please return by 13 September 2015 or at your earliest convenience. Please keep the original copies of each form for your own reference.

Please note that by signing and returning the consent form attached, you are providing the researcher with permission to contact your work employer/colleagues.

I look forward to your correspondence and will greatly appreciate your participation. Should you have any queries regarding the research study, please feel free to contact the researcher or one of the research supervisors.

Yours sincerely

Vivian Claire de Vries (Researcher)
Email: cpemployment.research@gmail.com
Phone: 083 262 7593

Ms. Jenny Pahl (Research Supervisor)
BSc (Log) (UCT), MA (Stellenbosch), DipEd (Natal)
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If you have any other questions or concerns about my rights as a study participant or if I am concerned about an aspect of the study or the researchers the please contact the UKZN Biomedical Research and Ethics Administration.

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Fax: (031) 260 4609

LETTER OF CONSENT TO PARTICIPATE IN RESEARCH

I _____ (full name of participant), confirm that I have read and understand the content of the attached letter describing the research study. I consent to participate in an interview and allow the contents of the interview to be used in the research study. I give my consent that the interview will be video recorded and audio recorded for analysis purposes only.

I understand fully what my involvement in the study means. I have therefore chosen to voluntarily participate. I understand that my identity will be kept confidential and that I have the right to withdraw from the study at any point in time without penalty. I understand that there is no direct benefit for me participating in the study.

I agree to be audio recorded: Yes No _____
Signature of participant

I agree to be video recorded: Yes No _____
Signature of participant

Signature of participant

Date

If you would like to receive a summary of the results of this research study please supply an email address or postal address below to which the summary can be sent:

PARTICIPANT BIOGRAPHICAL INFORMATION QUESTIONNAIRE

Personal details of individual with cerebral palsy

Participant Code	
Date of birth	
Age	
Gender (Please tick one of the boxes to show your choice)	Male <input type="checkbox"/> Female <input type="checkbox"/>
Home language (Please tick one of the boxes to show your choice)	English <input type="checkbox"/> isiZulu <input type="checkbox"/> If other language is spoken please state: _____
Contact number	
Who do you live with	

Cerebral palsy details

Type of cerebral palsy (if you are not sure please write unknown)	
Topography of cerebral palsy (areas of the body affected by the cerebral palsy)	
Were you born with the cerebral palsy or did you acquire it?	
Do you have any co-occurring characteristics or disorders? (Please tick one of the boxes to show your choice)	Hearing loss <input type="checkbox"/>
	Visual difficulties <input type="checkbox"/>
	Intellectual difficulties <input type="checkbox"/>
	Other (please specify): _____ _____ _____
Do you have any difficulties communicating with people? (Please tick one of the boxes to show your choice)	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please specify: _____

choice)	_____
Do you require an assistive device to help you communicate with people? (Please tick one of the boxes to show your choice)	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please state type of device/s: _____ _____
Do you have difficulties feeding or swallowing? (Please tick one of the boxes to show your choice)	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please specify: _____ _____
Do you have difficulties using devices at work, e.g. telephone, cellphone, laptop, etc. (Please tick one of the boxes to show your choice)	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please specify: _____ _____

Educational details of individual with cerebral palsy

Highest standard/grade achieved	
Did you attend tertiary education (Please tick one of the boxes to show your choice)	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please indicate tertiary qualifications: _____ _____
Vocational courses or work related courses at school (Please tick one of the boxes to show your choice)	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please indicate type of courses: _____ _____

Additional vocational courses	<hr/> <hr/>
-------------------------------	-------------

Therapeutic details of individual with cerebral palsy

Please tick the appropriate boxes to indicate which therapy you have received.	Type of therapy	√/X
	Speech-language therapy	
	Physiotherapy	
	Occupational therapy	
	Other (please state): <hr/> <hr/> <hr/>	

Employment details of individual with cerebral palsy

Current place of employment	
Name of employer	
Contact details of employer	
Start date of employment	
Type of employment (Please tick one of the boxes to show your choice)	Competitive <input type="checkbox"/> Competitive: you work in an environment where there are equal terms for people with and without disabilities Supported <input type="checkbox"/> Supported: you work with other people who have disabilities Sheltered <input type="checkbox"/> Sheltered: the job is part of a program at an

	institution
Number of working days per week	
Number or working hours each day	
Names of people you interact with on a daily basis	

Interview details for individual with cerebral palsy

Language for interview (Please tick one of the boxes to show your choice)	English <input type="checkbox"/>	isiZulu <input type="checkbox"/>
Venue/Address for interview		
Date and time for interview		

Appendix C: Information document, informed consent, and biographical questionnaire to individual with cerebral palsy (isiZulu translation)

DISCIPLINE OF SPEECH-LANGUAGE PATHOLOGY

SCHOOL OF HEALTH SCIENCES

Telephone: (031) 260 7438

Fax: (031) 260 7622

Email: khumalot8@ukzn.ac.za



September 2015

ISIMEMO SOKUBA INGXENYE YOCWANINGO

Ucwaningo: Indlela abantu abane cerebral palsy abaphatheka ngayo emsebenzini Kanye nabantu abasebenza nabo.

Nkosazane/Mnumzane

Ngiyi Speech-Language therapist ngenza ucwaningo lokuthola iziqu zami ze Masters kwi University of KwaZulu Natal (e Westville). Ngenza ucwaningo lokubona ukuthi abantu abane cerebral palsy baphatheka kanjani emsebenzini KwaZulu-Natal. Ngenza lolucwaningo ngoba ingekho imininingwano no lwazi kulendima lapha e Ningizimu Africa. Ngaloluhlonzo ngizama ukuthi ngiqondisise ngamathuba emisebenzi evuleleke abantu abane cerebral palsy, ukuthi yiziphi izinkinga ababhekana nazo emsebenzini, nanokuthi zikhona yini izinhlelo ezinzelwa ukuthi basebenze kalula, ezibala izinkinga zabo zokuxhumana, indlela abadla ngayo uma bebhekene nozakwabo emsebenzini. Lolulwazi luzosiza ekutheni sikwazi ukuthi sasabalalise ulwazi ngokuqashwa kwabantu abane cerebral palsy nanokuthi iSpeech-Language Therapist singabasiza kanjani labantu emsebenzini. Ngiyitholile imvume yokwenza loluhlonzo kwi Komidi laka Humanities and social Sciences Ethics Esikoleni se Sayensi yezeMpilo kwi Univesithi yaKwaZulu-Natal (BREC ref no. BE 030/15).

Ngokuzithoba ngicela imvume yakho yokuthi ube ingxenye yaloluhlonzo. Ukuba ingxenye yaloluhlonzo kuzothatha iskhathi esingange hora elilodwa, ngosuku nendawo ezokhethwa nguwana. Loluhlonzo luzokwenziwa ngokuthi uphendule imibuzo ethile ephathelene ne cerebral palsy emsebenzini, imibono yakho mayelana nokuqashwa kwakho, imisebenzi oyinikwayo, ukuthi wena uzibona kanjani emsebenzini, ukuxhumana nabanye abantu

emsebenzini, yini izinto okuye kwadingeka zishintshwe ukuze kube lula ukusebenza, izinkinga ohlangane nazo, namathuba akhona emsebenzini. Uma kukhona imibuzo ongathandi ukuyiphendula ungacela ukuthi yeqiwe. Uma kukhona isihloko esizokhuluma ngaso esingakuphathi kahle, azonikezwa imininingwane yomuntu oluleka ngezengqondo oseduze nawe ongakusiza.

Imibuzo nezimpendulo esizoba nazo zisoqoshwa ngemvume yakho, ukuze ngikwazi ukubuyela emumva. Lokhu kwenzelwa ukuthi kungabi khona imininingwane engiyikhohlwayo. Akekho umuntu ozolalela noma abheke okuzobe kuqoshiwe ngaphandle kwami uzobe ekubuza imibuzo kanye nenduna yami. Emva kwaloko kuzogcinwa kwi compuyutha ekhiywayo mese kuyacinywa emva kweminyaka emihlanu.

Izimpendulo zakho Kanye nokuba ingxenye yaloku kuzogcinwa kuyimfihlo. Awekho amagama abantu esizowaveza. Sizosebenzisa amagama amasha ukuthi sivikele igama lakho. Imininingwane etholwe ngeskhathi ubuzwa lemibuzo izogcinwa iminyaka emihlanu, ekhabethe elikhiyiwe, nakwikhompuyutha ivalelwe ngekodi esikhungweni sase Univesithi yaKwa-Zulu Natal (Westville) kwa Speech Therapy. Imininingwane ebhalwe ephepheni yona iyoqotshwa ngomshini odabula amaphepha. Awuphoqwa ukuthi ube ingxenye yaloluhlonzo, uma ufuna ukushiya, ungashiya noma inini, ngaphandle kokujeziswa. Uma ungathandi ukuba ingxenye yaloluhlonzo angeke loku kuphazamise ukuqashwa kwakho emsebenzini. Ukuba ingxenye yaloluhlonzo akusho ukuthi sizokutholela umsebenzi, noma sizoshintsha imibandela yokuqashwa kwakho emsebenzini okuwona njengamanje, noma unyuselwe umholo wakho.

Abantu abazoba ingxenye yalolucwaningo abazufana bonke bazohluka kane (abezinhlanga ezahlukene, ubulili obuhlukene, iminyaka ehlukene kanye nokuhluka kokukhubazeka kwabo yi cerebral palsy). Lokhu sikwenzela ukuqinisekisa ukuthi zonke izimvo zabantu abahlukene ziyazwakala. Akusiwona wonke umuntu ozonikwa lencwadi oyogcina ekhethiwe ukuthi aphoswe imibuzo.

Lapha sifake incwadi eshoyo ukuthi uyavuma ukuba ingxenye yalolucwaningo nokuthi ube nenhlolovo nathi . Uma ungakwazi noma uma uzimisele ukuba ingxenye yalolucwaningo, /sicela ugcwalise lamafomu bese uwathumela lapha cpemployment.research@gmail.com noma uwathumele ngesikhahlamezi ku Univesity of KwaZulu-Natal, Discipline of Speech-

Language Pathology kulenombolo (031) 260 7622 ucacise ukuthi aya ku “Attention: Vivian de Vries” ngaphezulu.. Sicela uwathumele lamafomu ngaphambi kwalolusuku uOctober. Sicela uwagcine lawomafomu azosala ngakuwe.

Sicela wazi ukuthi ngokusayina nokubuyisa lamaform, unika umnikazi waloluhlonzo imvume yokuthi athinte umqashi wakho kanye nalaba osebenzisana nabo.

Ngiyojabula ukuzwa impendulo evela kuwe, futhi ngiyokuthokozela ukuthi ube yingxeny yaloluhlonzo. Uma ngabe unemibuzo noma udinga ukucaciselwa ngokuthile ngicela ungasabi ukungithinta noma uthinte abaphathi bami abayizinduna zami kuloluhlonzo.

Ozithobayo,

Vivian Claire de Vries (Researcher)

Email:

Phone: 083 262 7593

Ms. Jenny Pahl (Research Supervisor)

BSc (Log) (UCT), MA (Stellenbosch), DipEd (Natal)

Email: pahlj@ukzn.ac.za

Phone: 031 260 7624

Ms. Saira Karim (Research Supervisor)

BComm. M. Comm (UKZN)

Email: karimsb@ukzn.ac.za

Phone: 031 260 7550

Uma unemibuzo ngami njengomuntu ozobe ekubuza imibuzo noma udinga incazelo edlulele ngalolucwaningo ngicela uthintane naleli hhovisi UKZN Biomedical Research and Ethics Administration.

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, South Africa
Email: BREC@ukzn.ac.za
Phone: (031) 260 2468
Fax: (031) 260 4609

INCWADI ENIKEZELA NGEMVUME YOKUBA INGXEENYE YOCWANINGO

Mina _____ (amagama aphelele), ngiyaqinisekisa ukuthi ngiyifundile futhi ngikuqondisisa konke okusencwadini engiyinikiwe echaza ngocwaningo. Ngiyavuma futhi ngiyaqinisekisa ukuthi ngibuzwe imibuzo futhi izimpendulo engizozinikezela zisetshenziswe kulolucwaningo. Ngiyavuma futhi nokuthi izimpendulo zami ziqoshwe ukuze bezokwazi ukuzihlaziya kahle.

Ngiyaqondisisa ukuthi ukuba ingxenye yalolucwaningo kusho ukuthini, Ngakho ngikhethe ngaphandle kwempoqo ukuba ingxenye yalolucwaningo. Ngiyaqonda futhi ukuthi imininingwane yami angeke ivezwe emphakathini nokuthi ngingalushiya lolucwaningo noma inini ngaphandle kokujeziswa.

Ngiyavuma ukuqoshwa:

 Yes No

Sayina: _____

Ngiyavuma kuthathwe Ivideo:

 Yes No

Sayina: _____

Sayina: _____

Usuku: _____

Akukho nzuzo ozoyithola ngokuba ingxenye yalolucwaningo. Uma ungathanda ukuthola imiphumela yalolucwaningo ngicela ufake ikheli lakho la sizoyithumela khona noma I emayili:

IMINININGWANE YOMUNTU OYINGXENYE YOCWANINGO

Imininingwane yomuntu one cerebral palsy

Igama lakho	
Usuku lokuzalwa	
Iminyaka	
Ubulili (Faka isiphambano)	Isilisa <input type="checkbox"/> Isifazane <input type="checkbox"/>
Ulwimi Lwasekhaya (Faka isiphambano)	English <input type="checkbox"/> isiZulu <input type="checkbox"/> Uma ukhuluma olunye ulwimi: _____
Inombolo yocingo	
Uhlala nobani	

Cerebral palsy details

Uhlobo lwe cerebral palsy onalo (uma ungazi ngicela ubhale ukuthi awazi)	
Imaphi amalunga omzimba aphazamiswe I cerebral palsy	
Ingabe wazalwa nayo I cerebral palsy noma uyithole ekukhuleni	
Ingabe unazo ezinye zalezizinkinga? (Faka isiphambano)	Ukungezwa kahle <input type="checkbox"/>
	Ukungaboni kahle <input type="checkbox"/>
	Ukukhubazeka komqondo <input type="checkbox"/>
	Okunye (sicela uchaze): _____ _____ _____
Unayo inking yokuxhumana nabanye abantu ngokukhuluma? (Faka isiphambano)	Yebo <input type="checkbox"/> Cha <input type="checkbox"/> Uma uthi yebo, sicela ucacise:

	<hr/> <hr/> <hr/>
<p>Ingabe uyazidinga izinsiza ukuze uxoxe nabantu? (Faka isiphambano)</p>	<p>Yebo <input type="checkbox"/> Cha <input type="checkbox"/></p> <p>Uma uthi yebo, iziphi lezosinsiza?: _____</p> <hr/> <hr/>
<p>Unayo inking yokudla noma ukugwinya? (Faka isiphambano)</p>	<p>Yebo <input type="checkbox"/> Cha <input type="checkbox"/></p> <p>Uma uthi yebo, sicela uchaze:</p> <hr/> <hr/> <hr/>
<p>Unayo inking yokusebenzisa izinto ezinjenge selula, noma ikhompyutha emsebenzini? (Faka isiphambano)</p>	<p>Yebo <input type="checkbox"/> Cha <input type="checkbox"/></p> <p>Uma uthi yebo, sicela uchaze:</p> <hr/> <hr/> <hr/>

Imininingwano ngemfundo yakho njengomuntu one Cerebral palsy.

Ugcine kuliphi ibanga	
<p>Uqhubekile nemfundo yamazanga aphakeme? (Faka isiphambano)</p>	<p>Yebo <input type="checkbox"/> Cha <input type="checkbox"/></p> <p>Uma uthe yebo, yiziphi iziqu zakho:</p> <hr/> <hr/> <hr/>
<p>Ingabe uzenzile izifundo zamakhono esikoleni? (Faka isiphambano)</p>	<p>Yebo <input type="checkbox"/> Cha <input type="checkbox"/></p> <p>Uma uthe yebo, iziphi:</p> <hr/>

Ezinye izifundo ozenzile?	_____

Iminingwano ngosizo olutholile

Ngicela ufake isiphambano uma kukhona usizo owake waluthola kulezizindawo	Usizo	√/X
	Speech-language therapy	
	Physiotherapy	
	Occupational therapy	
	Ezinye (sicela uzibhale):	

Imininingwane yokuqashwa komuntu one cerebral palsy

Indawo yomsebenzi	
Umqashi wakho	
Izinombolo zocingo zomqashi	
Uqale nini ukusebenza	
Uhlobo lomsebenzi (Faka isiphambano)	<p>Ojwayelekile <input type="checkbox"/></p> <p>Ojwayelekile: Usebenza endaweni lapho kunamathuba alinganayo kubantu abakhubazekile nabangakhubazekanga.</p> <p>Usingathekile: <input type="checkbox"/></p> <p>Usingathekile: Usebenza nabanye abantu abakhubazekile.</p>

	Uvikelekile: <input type="checkbox"/> Uvikelekile: umsebenzi wakho ungaphansi kohlelo oluthile enkampanini
Usebenza izinsuku ezingaki	
Usebenza amahora amangaki ngelanga	
Abantu osebenzisana nabo zonke izinsuku	

Imibuzo nezimpendulo zabantu abane cerebral palsy

Ulwimi ofuna imibuzo ibe ngalo (Faka isiphambano)	English <input type="checkbox"/> isiZulu <input type="checkbox"/>
Indawo lapho ofuna kwenziwe khona lemibuzo	
Usuku nesikhathi ofuna kwenziwe ngalo lemibuzo	

Appendix D: Information document, informed consent, and biographical questionnaire to individual with cerebral palsy's colleague

DISCIPLINE OF SPEECH-LANGUAGE PATHOLOGY

SCHOOL OF HEALTH SCIENCES

Telephone: (031) 260 7438

Fax: (031) 260 7622

Email: khumalot8@ukzn.ac.za



September 2015

INVITATION TO PARTICIPATE IN A RESEARCH STUDY

Research study title: The work place experiences of people with cerebral palsy and their colleagues in KwaZulu-Natal.

Dear Sir/Madam

I am a Speech-Language Therapist currently completing a Masters degree at the University of KwaZulu-Natal (Westville Campus). I am conducting research to explore the employment experiences of adults with cerebral palsy in KwaZulu-Natal. I am conducting this research as there is a lack of information in this area in South Africa. With this research I aim to gain an understanding of the types of employment available to people with cerebral palsy, barriers or challenges faced in the work place, and the accommodations in the work place with specific regard to communication and feeding/swallowing from the perspectives of individuals with cerebral palsy and their colleagues. This information will help to raise awareness to the employment of individuals with cerebral palsy as well as what the Speech-Language Therapist can do to assist individuals with cerebral palsy in the work place. Ethical clearance for the research has been granted by the Biomedical Research and Ethics Committee of the School of Health Sciences of the University of KwaZulu-Natal (BREC ref no. BE 030/15).

I kindly invite your participation to be involved in my research study as a colleague of someone with cerebral palsy. The individual with cerebral palsy has already consented to participate in the study. Involvement would include an interview which would last approximately one hour, at a date, time, and venue that is convenient to you. The interview questions will relate to cerebral palsy in the work place and no questions will have any

implications for you personally. The interview will be audio and video recorded to help with analysis.

Confidentiality will be maintained at all times and the names of all individuals participating in the study or the work place will not be revealed. All participants' names will be coded to assure confidentiality. The data obtained during this study will be stored for five years in a locked cabinet as well as on a password protected computer in the Department of Speech-Language Pathology at the University of KwaZulu-Natal (Westville Campus). Data that is recorded on paper will be shredded and electronic data will be formatted after five years. Your participation in this research study is voluntary and you have the right to withdraw from the study at any point in time without penalty. Refusal to participate in this study will in no way impact your employment. Participation will not result in employment, a change in employment status, or an increased income.

Attached is a document of informed consent and a biographical questionnaire. If you are willing to participate, please complete the forms and return via email to cpemployment.research@gmail.com or fax to the University of KwaZulu-Natal, Discipline of Speech-Language Pathology on (031) 260 7622 with "Attention: Vivian de Vries" written at the top. Please return by 30 September 2015. Please keep the original copies of each form for your own reference.

I look forward to your correspondence and will greatly appreciate your participation. Should you have any queries regarding the research study, please feel free to contact the researcher or one of the research supervisors.

Yours sincerely

Vivian Claire de Vries (Researcher)

Email: cpemployment.research@gmail.com

Phone: 083 262 7593

Ms. Jenny Pahl (Research Supervisor)

BSc (Log) (UCT), MA (Stellenbosch), DipEd (Natal)

Email: pahlj@ukzn.ac.za

Phone: 031 260 7624

Ms. Saira Karim (Research Supervisor)

BComm. M. Comm (UKZN)

Email: karimsb@ukzn.ac.za

Phone: 031 260 7550

If you have any other questions or concerns about my rights as a study participant or if I am concerned about an aspect of the study or the researchers the please contact the UKZN Biomedical Research and Ethics Administration.

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, South Africa

Email: BREC@ukzn.ac.za

Phone: (031) 260 2468

Fax: (031) 260 4609

LETTER OF CONSENT TO PARTICIPATE IN RESEARCH

I _____ (full name of participant), confirm that I have read and understand the content of the attached letter describing the research study. I consent to participate in an interview and allow the contents of the interview to be used in the research study. I give my consent that the interview will be video recorded and audio recorded for analysis purposes only.

I understand fully what my involvement in the study means. I have therefore chosen to voluntarily participate. I understand that my identity will be kept confidential and that I have the right to withdraw from the study at any point in time without penalty. I understand that there is no direct benefit for me participating in the study.

I agree to be video and audio recorded:

 Yes No

Signature of participant

Date

If you would like to receive a summary of the results of this research study please supply an email address or postal address to which the summary can be sent:

PARTICIPANT BIOGRAPHICAL INFORMATION QUESTIONNAIRE

Personal details of colleague of individual with cerebral palsy

Participant name	
Date of birth	
Age	
Gender (Please tick one of the boxes to show your choice)	Male <input type="checkbox"/> Female <input type="checkbox"/>
Home language (Please tick one of the boxes to show your choice)	English <input type="checkbox"/> isiZulu <input type="checkbox"/> If other language is spoken please state: _____
Contact number	

Employment details of colleague of individual with cerebral palsy

Current place of employment	
Rank or title at work	
Length of employment in current job	
Number of contact hours with individual with cerebral palsy per week	

Interview details for colleague of individual with cerebral palsy

Language for interview (Please tick one of the boxes to show your choice)	English <input type="checkbox"/> isiZulu <input type="checkbox"/> If other language is spoken please state: _____
Venue/Address for interview	
Date and time for interview	

Appendix E: Information document, informed consent, and biographical questionnaire to individual with cerebral palsy's colleague (isiZulu translation)

DISCIPLINE OF SPEECH-LANGUAGE PATHOLOGY

SCHOOL OF HEALTH SCIENCES

Telephone: (031) 260 7438

Fax: (031) 260 7622

Email: khumalot8@ukzn.ac.za



September 2015

ISIMEMO SOKUBA INGXENYE YOCWANINGO:

Ucwaningo: Indlela abantu abane cerebral palsy abaphatheka ngayo emsebenzini Kanye nabantu abasebenza nabo.

Nkosazana/Mnumzane

Ngiyi Speech-Language Therapist ngenza izifundo ze Masters kwi University yaKwaZulu-Natal (eWestville). Ngenza ucwaningo lokuthola izimvo ngokuqashwa kwabantu abane cerebral palsy KwaZulu-Natal. Ngenza lolucwaningo ngoba ayiminingi imininingwano kulendima la eNingizimu Africa. Ngalolucwaningo ngizimisele ukuqonda imisebenzi ekhona engenziwa abantu abane cerebral palsy, iziphi izinselelo abahlangana nazo emsebenzini, nanokuthi yini eyenziwa abaqashi no zakwabo emsebenzini ukwenza ukusebenza kwabo kube lula makuziwa ekuxhumaneni, ukudla/nokugwinya. Lolucwaningo ngizolenza kubantu abane cerebral palsy uqobo Kanye nabantu abasebenzisana nabo. Ulwazi oluzotholakala kulolucwaningo, luyosiza ukunyusa izinga lolulwazi ngokuqashwa kwabantu abane cerebral palsy. Ngiyitholile imvume kwi Humanities and Social Sciences Ethics Committee of the School of Health Sciences of the University of KwaZulu-Natal (BREC ref no. BE 030/15).

Ngiyakumema ukuba ube ingxenye yalolucwaningo njengomuntu osebenzisana nomuntu one cerebral palsy. Umuntu one cerebral palsy yena usevumile ukube ingxenye yalolucwaningo. Ukuba ingxenye yalolucwaningo kuzoba ukuphendula imibuzo ethile, engathatha ihora, ngesikhathi no suku oluvumelana nawe. Lemibuzo izoba imibuzo emayelana ne cerebral palsy emsebenzini, kanti ayikho imibuzo ezoba nemibandela emibi kuwena. Lemibuzo

nezimpendulo zakho zizoqoshwa nge video nangekhasethi ukuze sikwazi ukubuyela emumva siyihlonze kahle izimpendulo zakho.

Izimpendulo zakho Kanye nokuba ingxenye yaloku kuzogcinwa kuyimfihlo. Awekho amagama abantu esizowaveza. Sizosebenzisa amagama amasha ukuthi sivikele igama lakho. Imininingwane etholwe ngeskhathi ubuzwa lemibuzo izogcinwa iminyaka emihlanu, ekhabethe elikhiyiwe, nakwikhompuyutha ivalelwe ngekodi esikhungweni sase Univesithi yaKwa-Zulu Natal (Westville) kwa Speech Therapy. Imininingwane ebhalwe ephapheni yona iyoqotshwa ngomshini odabula amaphepha. Awuphoqwa ukuthi ube ingxenye yaloluhlonzo, uma ufuna ukushiya, ungashiya noma inini, ngaphandle kokujeziswa. Uma ungathandi ukuba ingxenye yaloluhlonzo angeke loku kuphazamise ukuqashwa kwakho emsebenzini. Ukuba ingxenye yaloluhlonzo akusho ukuthi sizokutholela umsebenzi, noma sizoshintsha imibandela yokuqashwa kwakho emsebenzini okuwona njengamanje, noma unyuselwe umholo wakho.

Lapha sifake incwadi eshoyo ukuthi uyavuma ukuba ingxenye yalolucwaningo nokuthi ube nenhlobo nathi . Uma ungakwazi noma uma uzimisele ukuba ingxenye yalolucwaningo, sicela ugcalise lamaformu bese uwathumela kule cpemployment.research@gmail.com nomr uwathumele ngesikhahlezi ku Univesity of KwaZulu-Natal, Discipline of Speech-Language Pathology kulombolo (031) 260 7622 ucacise ukuthi aya ku “Attention: Vivian de Vries” ngaphezulu.. Sicela uwathumele lamaformu ngaphambi kwalolusuk 30 September 2015. Sicela uwagcine lawomaformu azosala ngakuwe.

Sicela wazi ukuthi ngokusayina nokubuyisa lamaformu, unika umnikazi waloluhlonzo imvume yokuthi athinte umqashi wakho kanye nalaba osebenzisana nabo.

Ngiyojabula ukuzwa impendulo evela kuwe, futhi ngiyokuthokozela ukuthi ube yingxenye yaloluhlonzo. Uma ngabe unemibuzo noma udinga ukucaciselwa ngokuthile ngicela ungasabi ukungithinta noma uthinte abaphathi bami abayizinduna zami kuloluhlonzo.

Ozithobayo,

Vivian Claire de Vries (Researcher)
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Uma unemibuzo ngami njengomuntu ozobe ekubuza imibuzo noma udinga incazelo edlulele ngalolucwaningo ngicela uthintane naleli hhovisi UKZN Biomedical Research and Ethics Administration.

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INCWADI YEMVUME YOKUBA INGXEENYE YOCWANINGO

Mina _____ (amagama akho aphelele), ngiyavuma ukuthi ngiyifundile futhi ngiyayiqonda yonke into echaziwe ngalolucwaningo. Ngiyavuma ukuba ingxenye yalolucwaningo nanokuthi imibono yami isetshenziwe. Ngiyavuma futhi ukuthi imibuzo nezimpendulo zami ziqoshwe, kodwa iyosetshenziwa ukuhlonza izimpendulo kuphela.

Ngiyaqonda ukuthi yini umsebenzi wami kulolucwaningo. Ngizikhethela ukuba ingxenye yalokucwaningo, angiphoqwanga. Ngiyaqonda ukuthi igama lami neminingwane yami ayizuvezwa nanokuthi ngingalushiya noma inini lolucwaningo ngingajeziswa. Ngiyazi futhi ukuthi angizothola lutho ngokuba ingxenye yalolucwaningo.

Ngiyavuma ukuthi kuqoshwe ngeskhathi ngiphendula imibuzo:

Yebo

Cha

Sayina

Usuku:

Mawungathanda ukuthunyelelwa imiphumela yalolucwaningo, sicela usinikeze I email yakho noma imininingwane yeposi sizokuthumela imiphumela efingqiweyo:

IMININGWANO YOYINGXENYE YOCWANINGO

Iminingwano yakho

Igama Lakho	
Indawo ozalelwe kuyona	
Iminyaka	
Ubulili (Faka isiphambano)	Isilisa <input type="checkbox"/> Isifazane <input type="checkbox"/>
Ulwimi lwasekhaya (Faka isiphambano)	English <input type="checkbox"/> isiZulu <input type="checkbox"/> Uma lukhona olunye: _____
Contact number	

Iminingwane ngokuqashwa kwakho

Indawo osebenza kuyo	
Isikhundla sakho emsebenzini	
Usuneskhathi esingakanani usebenza la	
Amahora owachitha nomsebenzi one cerebral palsy	

Iminingwano yemibuzo nezimpendulo

Ulwimi ofuna lusetshenziswe (Faka isiphambano)	English <input type="checkbox"/> isiZulu <input type="checkbox"/> Olunye ulimi ongathanda lusetshenziswe: _____
Indawo noma ikheli la ungathanda siyenzele khona lemibuzo	
Usuku nesikhathi ongathanda size ngalo	

Appendix F: Interview schedule for individual with cerebral palsy

Good morning/afternoon

My name is Vivian and I am researching employment experiences of adults with cerebral palsy as part of my Master's degree in Speech-Language Therapy at the University of KwaZulu-Natal. As you know, I am here today to talk to you about your employment experiences. If you don't understand the questions, want me to repeat a question, or feel uncomfortable with a question please let me know. The video recorder and tape recorder are to help me with analysis. Do you have any questions before we begin?

1. General

1.1. Tell me about your job.

2. Educational and therapeutic history

2.1. Tell me about the skills you learnt at school that help you with your job now.

2.2. Tell me about what your school did to help you find a job.

2.3. Describe the therapy you received in school or after school.

Probe: Did you receive speech therapy, occupational therapy or physiotherapy?

Describe the things that you did in therapy.

2.4. Tell me about the kind of things you learnt in therapy that helped you with your job.

2.5. Tell me how the therapy you have received helped you prepare for work.

2.6. Tell me about any vocational/work courses that you did during or after school.

2.7. Tell me about the courses or further education that you completed after school and how these helped to prepare you for employment.

3. Employment history

3.1. Tell me what you did in the time after you finished school and started your job.

3.2. Tell me about the jobs that you have had so far.

3.3. Tell me about how you found your current job.

4. Job description

4.1. Tell me about your typical day at work.

Probe: Tell me about some of the things that you do and how you feel about them.

4.2. Tell me about how you feel about the work that you do.

4.3. Describe anything that may be difficult for you at work and why.

4.4. Tell me the 'good things' and the challenges about using a computer at work.

Probe: Tell me about any difficulties you have using a computer for work?

What do you do if you are having difficulties with the computer?

What types of things do you have to do on a computer?

4.5. Tell me the good things and the difficult things about using a phone at work.

Probe: Tell me about any problems you have using the phone for work.

What do you do if you are having difficulties with the telephone?

4.6. Tell me about any help you receive at work or with your work.

5. Perceptions in the work place

5.1. Let's talk about what it is like to be a person with cerebral palsy who works.

Probe: Let's discuss how it feels to be a person with cerebral palsy who works.

Talk about any challenges you may have had.

Do you feel that you are given different tasks at work because you have cerebral palsy?

Do you feel like you are treated differently because you have cerebral palsy?

5.2. Tell me about your relationship with your colleagues.

Probe: Do you get on with your colleagues?

How does it make you feel?

Do you ever feel like your colleagues are avoiding you?

5.3. Tell me about any support you receive from your colleagues.

5.4. Let's talk about the things you would like to change about your work or the people you work with?

6. Communication and social interaction in the work place

6.1. Let's talk about difficulties you have with communicating with people.

- 6.2. Let's talk about the device that you use or the assistance you require to help you to communicate?
- 6.3. Tell me about how you communicate with your colleagues.
Probe: What do you do when somebody doesn't understand what you are saying?
What do you do when you need help?
Do you feel that you have to repeat yourself?
- 6.4. Tell me about what you do if people do not understand you.
Probe: Have you learnt any strategies to help you cope with this?
Do you repeat yourself or try explaining in other words?
- 6.5. Tell me tell me about communication with a group of people, colleagues or in a meeting
Probe: How do you get their attention when you want to say something?
- 6.6. Let's talk about communicating with your colleagues on a social level, for example on your lunch break/after work.
Probe: Do you communicate with your colleagues about topics on a social level.
- 6.7. Tell me about the different languages you speak at home and at work.

7. Writing

- 7.1. Tell me about writing that you are required to do as part of your job.
Probe: Does your job require you to write on a daily basis?
Do you have any difficulties coping with this aspect of your job?
Do you require any adaptations to write, such as word processor or an adaptation to your computer/laptop/tablet/smartphone?
What types of things do you have to write?

8. Feeding and swallowing in the work place

- 8.1. Tell me about the difficulties you have with feeding or swallowing. (*To ask only if individual has indicated difficulties above*)
Probe: Does it impact where you have lunch?
What support or assistive devices do you use to help you eat your food or drink?

- 8.2. Let's talk about how you think your colleagues feel around you when you are eating. *(To ask only if individual has indicated difficulties above)*

9. Accommodations in the work place

- 9.1. Let's discuss your general work place needs.

Probe: Describe the things you require to do your job?

- 9.2. Tell me about any adaptations that had to be made for you to do your job.
- 9.3. Let's talk about any difficulties you may have with using devices in your office, for example a laptop/computer or telephone.
- 9.4. Tell me how you feel about using these devices.
- 9.5. Let's talk about how you use devices to communicate in the work place and any challenges you may have had.

10. Challenges and opportunities in the work place

- 10.1. Tell me about the challenges you have faced as an individual with cerebral palsy who is working.
- 10.2. Tell me about opportunities being employed has made for you.
- 10.3. Let's talk about what employment challenges and opportunities you would share with other people who have cerebral palsy who are planning their employment.

Please feel free to share any other information that you would like to about cerebral palsy and employment.

Thank you for your time. I wish you all the best with your work.

Appendix G: Interview schedule for individual with cerebral palsy (isiZulu translation)

Sawubona

Igama lami ngingu Vivian, ngenza ucwaningo ngabantu abadala abane cerebral palsy ukuze ngithole iziqu ze Masters ye Speech-Language Therapy kwi Univesithi yaKwa-Zulu Natal. Njengoba wazi, ngilapha ukuzokhuluma nawe ngendlela osebenza ngayo. Uma kunemibuzo ongayiqondi kahle, noma ufuna ngiphinde umbuzo, noma umbuzo ungakuphathi kahle, ngicela ungitshele. Lemishini yokuqopha eyokuthi ingisize masengiqedile ngiphindele emuva ngihluze kahle izimpendulo zakho. Ingabe unayo imibuzo ngaphambi kokuthi siqale?

1. Imibuzo nje ejwayelekile

1.1. Awungitshele kabanzi ngomsebenzi wakho.

2. Imfundo yakho nosizo lwezempilo owake waluthola

2.1. Awungitshele ngamakhono owawafunda esikoleni akusizayo manje emsebenzini.

2.2. Awungitshele isikole sakho sakusiza kanjani ukuze uthole umsebenzi.

2.3. Awungitshele ngosizo lwezempilo owake waluthola eskoleni noma usuqedile.

2.4. Awungitshele ngezinto owazifunda ezikusizayo manje emsebenzini

2.5. Awungitshele ukuthi usizo lwezempilo owaluthola lukulungiselele kanjani emsebenzini .

3. Umsebenzi wakho

3.1. Awungitshele ukuthi wawenzani kusukela uqeda isikole kuze kube uyasebenza.

3.2. Wawuthola kanjani umsebenzi wakho.

4. Izinto ozenzayo emsebenzini

4.1. Awungitshele kabanzi ukuthi usuku lwakho uluchitha wenzani emsebenzini.

Gubha: Iziphi izinto ozenzayo kanti futhi uzizwa kanjani ngazo?

4.2. Uzizwa kanjani ngomsebenzi owenzayo.

4.3. Yini oyithola inzima emsebenzini wakho, kungani?

5. Abantu bakubuka kanjani emsebenzini

5.1. Awungitshele ukuthi bunjani ubudlelwano bakho nabantu osebenza nabo.

Gubha: Ingabe nisebenzisana kahle noma kabi?

Lokhu kukuphatha kanjani?

Ingabe uke ubone engathi bayakugwema abantu emsebenzini?

5.2. Awungitshela ukuthi bakuseka kanjani abantu osebenza nabo.

5.3. Asikhulume ngokuthi uzizwa kanjani ngokuba umuntu one cerebral palsy osebenzayo.

Gubha: Uzizwa engathi unikwa umsebenzi ohlukile kowabanye ngoba une cerebral palsy?

Uzizwa engathi uphathwa ngendlela ehlukile ngoba une cerebral palsy?

5.4. Asikhulume ngezinto ongathanda ukuzishintsha ngomsebenzi wakho noma ngabantu osebenza nabo?

6. Ukuxhumana emsebenzini

1. Asikhulume ngezinkinga onazo ngokuxhumana nabantu emsebenzini.

2. Ngitshela ngabe uxhumana noma ukhuluma kanjani nabantu osebenza nabo.

Gubha: Wenzanjani uma umuntu engaqondi ukuthi ufuna ukuthini?

Wenza njani uma udinga usizo?

Ingabe uzizwa kufanele uphinde kaningi ukuze abantu bakuzwe?

3. Ngitshela ukuthi umisa kanjani uma abantu bengakuqondi ukuthi uthini.

4. Ngitshela ukuthi wenza njani uma ukhuluma nabantu abanengi, equlwini.

Gubha: Wenza kanjani ukuthi bakubone ukuthi uzama ukukhuluma nabo?

5. Asikhulume ngokuthi uxhumana kanjani nabantu osebenza nabo ngaphandle kwasemsebenzini, khona enikwenza ndawonye yini.

Gubha: Ingabe niyaxoxa ngezinto ezingaphathelene nomsebenzi uma ningekho emsebenzini.

Ukufunda nokubhala

1. Ngitshela ngenxenye yomsebenzi wakho efaka ukubhala nokufunda.

Probe: Ingabe ulindeleke ukuthi ufunde ubhale zonke izinsuku?

Ingabe unayo inking yokumelana naloku emsebenzini?

2. Ingabe uyakwazi ukumelana nokufunda nokubhala emsebenzini ngicela uchaze.

Ukudla nokugwinya emsebenzini

1. Ngitshela ngezinkinga onazo zokudla nokugwinya.

Probe: Ingabe lokhu kunomthelela wokuthi udlelaphi?

Ingabe zikhona izinsiza ozisebenzisayo uma udla?

2. Asikhulume ngokuthi ucabanga ukuthi abantu osebenza nabo bakubuka kanjani uma udla.

Ushintsho emsebenzini

1. Asikhulume ngezinkinga ongaba nazo ekusebenziseni imishini ehhovisi, njeng laptop noma ucingo.
2. Ngitshele ngabe uzizwa kanjani ngokusebenzisa lemishini yasema hhovisi
3. Ngitshele ukuthi lukhona yini ushintsho oluye lwenziwa ukuze usebenze kahle emsebenzini wakho.

Ubunzima/amathuba emsebenzin wakho

1. Ngitshele ngobunzima osuke wahlangabezana nabo njengomuntu one cerebral palsy emsebenzini wakho.
2. Ngitshele ngamathuba osuwatholile ngokuqashwa kwakho.
3. Asikhulume ngobunzima namathuba ongakhuluma ngawo nabanye abantu abane cerebral palsy nabo abangathanda ukusebenza.

Ngiyabonga ngesikhathi sakho. Ngikufisela konke okuhle emsebenzini wakho.

Appendix H: Interview schedule for colleague of individual with cerebral palsy

Good morning/afternoon

My name is Vivian and I am researching employment experiences of adults with cerebral palsy as part of my Masters degree in Speech-Language Therapy at the University of KwaZulu-Natal. As you know, I am here today to talk to you about cerebral palsy and the employment of (name). Everything we discuss today will remain confidential and will be shared in my research using codes. If you don't understand the questions, want me to repeat a question, or feel uncomfortable with a question please let me know. The audio recorder is to help me with analysis. Do you have any questions before we begin?

1. General

1.1. Tell me about (name) and his/her work.

2. Understanding of cerebral palsy and employment

2.1. Tell me about your understanding of cerebral palsy and the characteristics that a person with cerebral palsy may have.

Probe: Let's discuss the social and communicative aspects.

2.2. Tell me your views on how cerebral palsy may affect someone becoming employed.

2.3. Let's discuss the role of employment for the individual with cerebral palsy.

2.4. What things would you consider if you had to employ a person with cerebral palsy? (*ask only if any accommodations have been made*)

3. Perceptions of others in the work place

3.1. Tell me about your relationship with (name).

3.2. Let's talk about how cerebral palsy affects (name) in the work place.

3.3. Tell me about how you think (name) feels about his/her job and work place.

3.4. Tell me about how you think your colleagues relate to (name) in the work place.

3.5. What would you say are the most important things for your colleagues to know about (name)?

Probe: Let's discuss what you would tell a colleague who has never met (name) before.

3.6. Tell me about the impact on (name's) employment on your business.

4. Job description

- 4.1. Tell me about a typical day at work for (name).
Probe: Does (name) have any challenges with his/her daily tasks?
- 4.2. Tell me about (name's) skills when using a computer/laptop/tablet/smartphone.
- 4.3. Tell me about (name's) skills when using the phone.
- 4.4. Tell me about (name's) skills with regards to writing.
- 4.5. Describe the support that (name) receives from his/her colleagues.
- 4.6. Describe any adaptations that have been made to accommodate (name) in the work place.

5. Communication and social interaction in the work place

- 5.1. Describe (name's) communication in the work place.
- 5.2. Describe your understanding of (name) when he/she speaks to you.
Probe: Do other people in the office have difficulty understanding (name)?
- 5.3. Tell me about how (name) interacts in a group conversation.
- 5.4. What does (name) do if he/she needs assistance in the work place?
- 5.5. Let's talk about how other workers feel when (name) is communicating with them.
- 5.6. Describe (name's) feeding/drinking habits in the work place. *(To ask only if individual with cerebral palsy presents with feeding/swallowing difficulties).*
Probe: Does (name) interact with others whilst eating or drinking?
- 5.7. Tell me about how you feel when (name) is eating in front of you. *(To ask only if individual with cerebral palsy presents with feeding/swallowing difficulties).*

Let's discuss what you would tell other employers/colleagues about employing/working with someone who has cerebral palsy.

Please feel free to share any other information that you would like me to know about cerebral palsy and employment.

Thank you!

Appendix I: Interview schedule for colleague of individual with cerebral palsy (isiZulu translation)

Sawubona

Igama lami ngingu Vivian, ngenza ucwaningo ngabantu abadala abane cerebral palsy ukuze ngithole iziqu ze Masters ye Speech-Language Therapy kwi Univesithi yaKwa-Zulu Natal. Njengoba wazi, ngilapha ukuzokhuluma nawe ngendlela osebenza ngayo. Uma kunemibuzo ongayiqondi kahle, noma ufuna ngiphinde umbuzo, noma umbuzo ungakuphathi kahle, ngicela ungitshele. Lemishini yokuqopha eyokuthi ingisize masengiqedile ngiphindele emuva ngihluze kahle izimpendulo zakho. Ingabe unayo imibuzo ngaphambi kokuthi siqale?

Imibuzo ejwayelekile

1. Ngitshele ngo (Igama) nomsebenzi wakhe.

Ukuqonda I cerebral palsy emsebenzini

1. Ngitshele ukuthi wena wazi ukuthi iyini I cerebral palsy, futhi abantu abanayo banjani.
2. Ngitshele umbono wakho ukuthi ukuba no cerebral palsy kudlala yiphi indima ekutheni uqashwe.
3. Iziphi izinto ongazibheka ngaphambi kokuthi uqashe umuntu one cerebral palsy?

Imibono emsebenzini

1. Ngitshele ngobudlelwano bakho no (Igama).
2. Ingabe ukuba ne cerebral palsy kumsebenzisa/kumphatha kanjani u (Igama).
3. Ngitshele ukuthi ucabanga ukuthi u(Igama) kumphatha kanjani ukuba ne cerebral palsy.
4. Ngitshele mawubheka abanye enesebenzisana nabo basebenzisana kanjani no (Igama) emsebenzini.
5. Ungathi yini into ebululekile okungafuneka abanye enisebenza nabo bayazi ng (Igama)?
6. Ngitshele ukuthi kunomthelela muni ukuba khona kuka (Igama) la emsebenzini wenu.

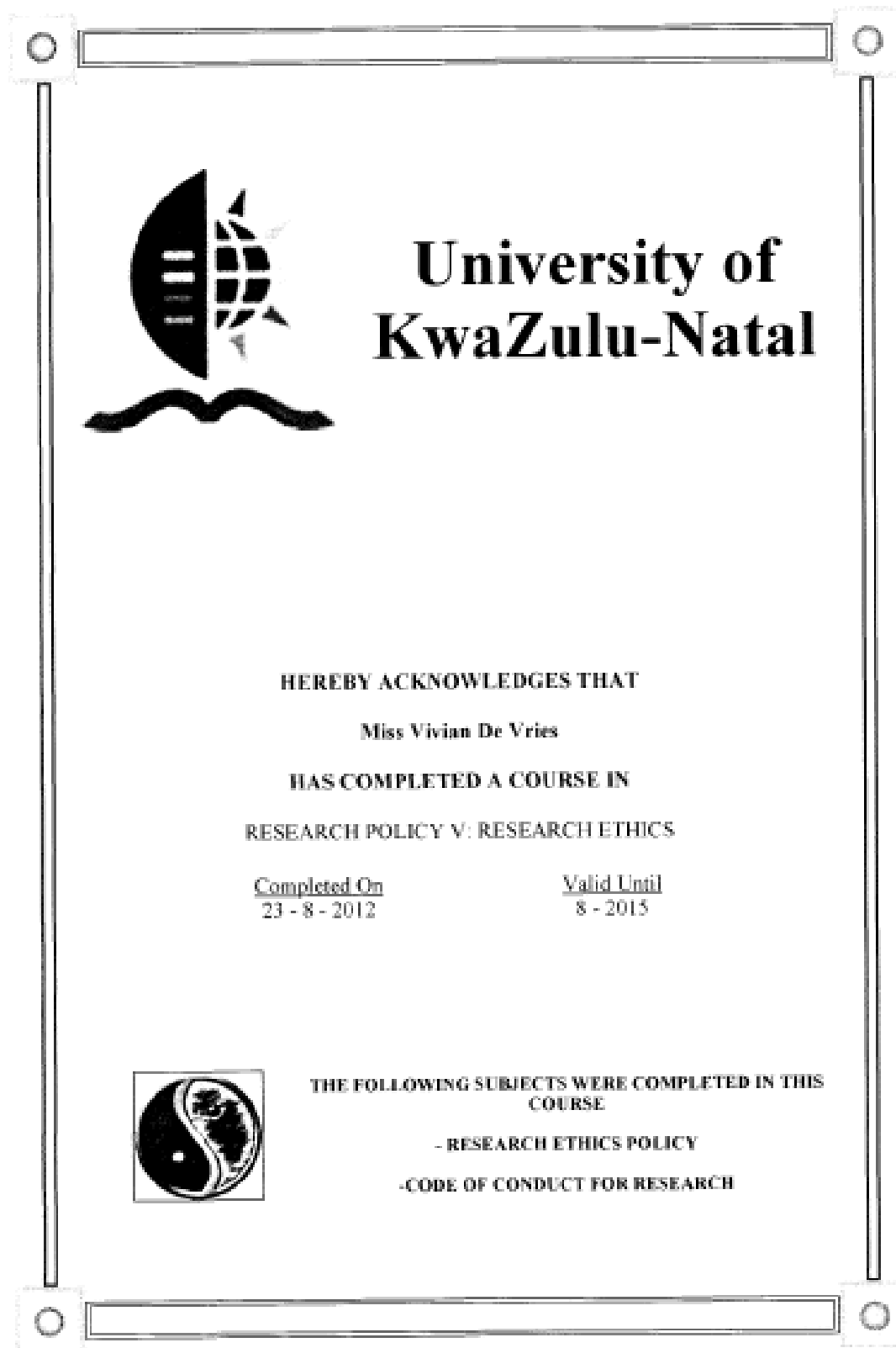
Imisebenzi

1. Ngitshele nje ngosuku lwa (Igama) emsebenzini.
Gubha: Ingabe uyakwazi ukumelana nemisebenzi ayibekelwe?
Ikhethwa kanjani imisebenzi ayinikwayo?
2. Ngitshele ukuthi u (Igama) uyisebenzisa kanjani ikhomputha.
3. Ngitshele ukuthi u(Igama) ulusebenzisa kanjani ucingo.
4. Ngitshele ngekhono la (Igama) lolufunda nokubhala.
5. Chaza ukuthi abantu abasebenza no (Igama) bameseka kanjani.
6. Chaza noma iluphi ushintsho olwenziwe la emsebenzini ukuze u (Igama) asebenze kahle.

Ukuxhumana nabanye abantu emsebenzini

1. Chaza ukuthi u(Igama) uxhumana kanjani nabanye abasebenzi.
2. Chaza ukuqonda kwakho uma u (Igama) ekhuluma nawe.
Gubha: Ingabe abanye abantu banenkinga yokumuzwa u (Igama)?
3. Ngitshele ukuthi u (Igama) wenze njani uma nibaningi nixoxa.
4. Wenze njani uma edinga usizo?
5. Asikhulume ngokuthi abanye abasebenzi benza njani uma u (Igama) exoxa nabo.
6. Awuchaze ukuthi u (Igama) wenze njani mayedla, udlelaphi.
7. Awungitshele ukuthi uzizwa kanjani uma u (Igama) edla phambi kwakho.

Ngiyabonga!





University of KwaZulu-Natal

HEREBY ACKNOWLEDGES THAT

Miss Vivian De Vries

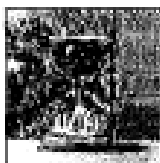
HAS COMPLETED A COURSE IN

Human Subject Research Ethics

Completed On
23 - 8 - 2012

Valid Until
8 - 2015

**THE FOLLOWING MODULES WERE COMPLETED IN THIS
COURSE**



Research Ethics in South Africa - An Overview
Guiding Principles of Ethical Research
Informed Consent
Research Vulnerabilities
Researcher Responsibilities

Appendix K: Letter of ethical clearance



02 September 2015

Mrs. V de Vries
PO Box 1829
New Germany
3620
VivianeClaire.devries@gmail.com

PROTOCOL: The work place experience of individuals with cerebral palsy who have communication difficulties. Masters 210500835: School of Health Sciences. BREC Ref: BE030/15

EXPEDITED APPLICATION

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application received on 27 January 2015.

The study was provisionally approved pending appropriate responses to queries raised. Your responses dated 28 August 2015 to queries raised on 16 July 2015 have been noted by a sub-committee of the Biomedical Research Ethics Committee. The conditions have been met and the study is given full ethics approval.

This approval is valid for one year from 02 September 2015. To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2006) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be **RATIFIED** by a full Committee at its meeting taking place on **13 October 2015**

We wish you well with this study. We would appreciate receiving copies of all publications arising out of this study.

Yours sincerely

Professor J Tsoka-Gwegweni
Chair: Biomedical Research Ethics Committee

cc: Supervisor: PRO1081520_BC.ZD

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