Chapter 17

Returning Individuals with Mild to Moderate Brain Injury Back to Work: A Systematic Client Centered Approach

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Additional information is available at the end of the chapter

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1. Introduction

Due to an increase in the numbers of individuals who sustained brain injuries due to motor vehicle accidents, trauma induced by violence and substance abuse, has resulted in more disabled individuals becoming non-productive members in society and inactive in the workplace [1]. Research in the field of brain injury rehabilitation internationally is limited, with the majority of research focusing on the medical model of intervention. In the medical model, the disabled or injured individual is regarded as having problems that require medical-biological intervention mainly, with little or no attention given to the difficult process of reintegrating the disabled individual back into society, for example, in resuming their worker roles. The medical approach may result in feelings of disempowerment on behalf of the disabled with regard to the rehabilitation process. The lack of success of current rehabilitation interventions could be seen as a result of an inability to generalize outcomes of rehabilitation in a clinical setting to the skills needed to return to work or re-integrate into the community.

2. Epidemiology

A traumatic brain injury (TBI) is an insult to the brain resulting from external physical forces such as high speed motor vehicle accidents (MVA's) and falling from heights which exceeded the height of the person, as well as sports injuries, gunshot wounds and work related injuries. [1,2] Raskin and Mateer [3] describe TBI as the sudden trauma to the head, which causes injury to the head and the brain. Such injuries can result in impaired physical, cognitive, emotional, and behavioral functioning. According to Gutman [1], Khan et al. [4] and the National Health

Laboratory Service [5], TBI occurs more frequently in men than in women by a ratio of four to one, with 80% of all individuals who sustain TBI being between the ages of 18 and 30 years. Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability. Traumatic brain injury (TBI) is a serious public health problem in the United States [6]. Traumatic brain injury is one of the invisible wounds of war, and one of the signature injuries of troops wounded in Afghanistan and Iraq. In 2011, the incidence of traumatic brain injuries of armed forces injured in Afghanistan and Iraq increased to 20 000, a dramatic increase of 5000 incidence since 2007. [7]

3. Return to work

According to Vuadens, Arnold & Bellmann [8] 70% of moderately brain injured individuals do not return to work and that 20% of mildly brain injured individuals are unemployed. Furthermore a total of 10% of brain injury clients get fired and only 2% are employed on a short term basis, one year post trauma. The above evidence indicated that a large number of TBI individuals are unable to return to the vocational roles they established before injury, this has a direct correlation with their volition and self-worth. Cicerone [9] confirms that individuals with brain injury who have failed to return to work have a lowered subjective wellbeing compared to those who have successfully returned to work. Studies have indicated that clients also have harsh unmet needs in association with working at societal level; they no longer fill their roles as breadwinners and lost wages. According to Cicerone [9], individuals with TBI who are unemployed feel as if they are not competent enough to perform at the average work standards, and therefore have a loss of self esteem and an overall decline in volition and occupational engagement not just in vocational activities but in all activities as they no longer see themselves as contributing members of society.

4. Facilitators of return to work for individuals with brain injury

Reduction of travelling expenses to and from the hospitals greatly reduces the financial strain experienced by the individual with the brain injury. Sample and Darragh [10] in their study on perceptions of care access identified that **financial challenges and travelling for services** amongst other challenges are of concern. Easy access to the treatment facilities and open communication between health officials, employers and individuals with brain injury positively contributed to the brain injured individual`s return to work. Clients often indicate that they have to find alternative means of obtaining their medication, some of them often arrange to have their medication collected at their nearest day hospital. **Open communication** is interpreted as communication between the health professional, employer, participant's family and the participant. Effective communication facilitates transparency and allows all stakeholders such as the employer and health professional to know their individual responsibilities. Friesen et al. [11] confirmed that good communication and positive relations between stakeholders (employee, employer and health professional) was important during the return to work process. A **client centered approach** enables clients to take control of their rehabilitation

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by actively participating in the planning and implementation of their treatment programmes. Townsend and Banks [12] indicates that client centred practice guides the occupational therapist (health provider) to work with clients who are active participants in collaborating their ideas of fulfilling meaningful occupational performance within an environmental context. Schultz-Krohn and Pendleton [13] mentions that client centred practice is guided by the following: the language used to address the client should reflect the person first and then the condition, the client is offered choices and is supported in directing the occupational therapy process, intervention is provided in a flexible and accessible manner, intervention is contextually appropriate and relevant, and there is a clear respect for difference and diversity in the occupational therapy process.

Furthermore clients often mention that **treatment programmes that incorporated home visits** were extremely helpful. Schwartz [14] verified the above in her research where she indicated that home based occupational therapy in addition to traditional clinic approaches can result in meaningful long term improvement in patient performance. Law, Baum and Dunn [15] indicate that work assessment in occupational therapy address specific tasks that contribute to the person's work performance. In the current study the participants indicated that they had to undergo an occupational therapy assessment in order to determine whether they were fit to return to work. These assessments in the occupational therapy department assisted clients in determining whether they had the cognitive, physical and psychological capacity needed to return to their previous job or an alternative job. With regard to vocational rehabilitation programmes the clients are often of the opinion that vocational rehabilitation programmes should not only focus on the **assessment of the client`s work ability rather it should include the use of ergonomics** when designing return to work programmes. Sanders and Wright [16] mentions that a return to work fitness programme offers the worker with a supervised fitness programme that targets specific needs and weaknesses in order to assist transition back to work. These authors further state that partial engagement of actual duties (modified duties) as well as fitness programmes may be beneficial. A gradual return to work process therefore facilitates a better adjustment of the worker when he returns to work after illness or injury. This allows the worker to build up his endurance to the level expected in his job. Sanders and Wright [16] describes ergonomic designs as a health promoting intervention that improves efficiency for all workers performing a job. Ergonomic interventions focus on modifying the work tasks, the work environment and the organization of work in order to minimize risks that may contribute to musculoskeletal pain. Workplace adaptations (ergonomic design of the workplace or work routine) often enables the client to adapt to the workplace demands. A gradual return to work process facilitates a better adjustment of the worker to the workplace when they return to work after illness or injury. It could be argued that this process will allow the client to build up his/her endurance to the level expected in the job. Improving the client's **entrepreneurship skills** as this would enable the client to create their own employment opportunities if they could not find a job. Furthermore entrepreneurship was viewed as a facilitator. Health professionals should thoroughly explore their clients` alternative work skills in that an individual who has worked in a variety of jobs would have the potential to return to the labour market in an alternative capacity despite his or her functional limitations. Sanders and Wright [16] describes employment interests and pursuits as identifying work interests based on an individual's skills, abilities, interests and opportu-

nities available. After a brain injury an individual`s work skills could become compromised resulting in them being dismissed from their work. As a result they viewed self employment or entrepreneurship activities as a measure of sustaining themselves. Individuals with brain injury often view the **support of their family** during the recovery stages after their injury to be extremely beneficial. Family assistance is often seen as essential for the clients to resume their worker roles without the assistance of their family. Rehabilitation professionals should incorporate the family of the individual with the brain injury as a form of support during the intervention process. Piece and Salter [17] states that the goals of a support group is to provide a safe accepting environment in which to express feelings; to give the participants the opportunity to hear others express similar feelings and conflicts; to ask help and to provide an environment for problem solving. It could therefore be argued that a support group would be extremely helpful when designing a rehabilitation programme.

Friesen et al. [11] confirmed that **good communication and positive relations** between stakeholders (employee, employer and health professional) was important during the return to work process. This good communication was seen as a measure of being transparent. Transparency with their employers about their condition then employers was aware of their functional limitations. The clients felt that they could resume their worker roles when they had the experience of working in different jobs. This means that health professionals such as occupational therapists need to focus on the other skills that clients may have as this could aid, if individuals with brain injury was transparent with the employers their clients in finding alternative employment. Watt and Penn [18] found that individuals with brain injury who had an education of Grade 12 or less and who were unskilled were significantly less likely to return to work than those with tertiary education and who had managerial or professional jobs.

5. Barriers to return to work for individuals with brain injury

Barriers relating to the health system included the **poor administration procedures** relating to the access of individuals with brain injury to the hospital system or when they have to apply for a disability benefit. Poor administration systems could be linked to **poor communication** between the various departments as well as the work pressure that staff works under. Another concern is that these staff members become **emotionally depleted** because of the psychological and physical energy that they utilize in treating patients. When this occurs they become frustrated and treat patients without sympathy. McGee [19] attributes this to a concept called depersonalization which is described as a state in which the helping professional no longer has sympathy, respect or positive feelings for clients. In brain injury rehabilitation research conducted, Abreu, Seale, Podlesak and Hartley [20] mention that the best case scenario in developing quality intervention would involve adequate funding for patient stay in the hospital and ideal clinical treatment which should be provided in terms of personnel and adequate therapy for rehabilitation. Other barriers included the clients **receiving incompetent medical and rehabilitative services** from hospital staff. The high costs of medical or rehabilitative services prevent client`s access to hospital services. Other barriers that prevented individuals with brain injury from returning to work included client`s not being explained the **side effects of medication,** this often caused the brain injured individual to be dizzy, and tired

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in the workplace therefore negatively affecting the client`s work performance. Individuals with brain injury in a study conducted by Soeker [21] indicated that they were not given thorough explanations regarding the medications that were prescribed to them. As a result they developed side effects such as stomach complications that had a long term effect on their health. Frieg and Hendry [22] identified that health care professionals should educate both the client and caregivers (family) about the use of medication. A **lack of communication about reasonably accommodating the injured worker** in the workplace negatively affected their chances of returning to work. Friesen et al [22] confirmed that good communication between all stakeholders greatly enhanced the potential of the injured worker to return to work. Finally the failure of health professionals to recognise the **patients` rights charter** caused the individual with the brain injury to lose confidence in rehabilitation programmes. The right to have a second opinion about their medical condition closely relate to the patients' rights charter which states a number of patient rights for example the right to be treated with dignity and respect, the right to be counselled about your condition and the right to have a second opinion. [23]

6. Current rehabilitation approaches

Rehabilitation in the context of occupational therapy is currently defined as 'a service that aims to enable and empower people whose occupations are restricted because of disadvantage, illness or disabling physical or social barriers, to adapt to restrictions in function. [24] In the North American health system, rehabilitation, inclusive of cognitive rehabilitation, starts immediately after the patient has been medically stabilised in the intensive care unit. Patients are then transferred to an in-patient rehabilitation facility and thereafter, they enter a transitional living programme as an out-patient. [25]

Two of the major cognitive rehabilitation approaches are the remedial approach and the adaptive approach. The remedial approach is characterised by attempts to improve memory and perceptual skills. [26] The remedial approach is also referred to as the restorative approach focussing on attempting to remediate core areas of cognitive dysfunction by means of systematic training. Assessment procedures entail a sequence of highly structured psychometric tasks. These tasks are chosen in order to exercise the identified area of cognitive impairment and are graded by complexity, quality, speed or presentation and the cuing needed to complete the task. The therapeutic modalities include pencil exercises, computerised soft ware, table top tasks and graded occupations of daily living. [27] A popular critique of this approach is that the amount of transference of the learned skill to functional settings is minimal. [27]

The compensatory approach, which is also known as the adaptive approach, is generally geared toward the facilitation of activities of daily living. [27] This approach capitalises on the intact area of cognitive abilities and attempts to bypass the area of cognitive impairment. The emphasis of this approach is on successful participation in daily occupations rather than specific cognitive skills underlying task performance. This approach is further characterised by internal compensatory strategies such as verbal description, rehearsing and mnemonics. Whereas the external compensatory approach is characterised by memory aids such as diaries, calendars and electronic cuing devises. [27, 28] Critique of these approaches include that they

offer therapeutic intervention during the early stages of recovery but they fail to meet the client's needs in the later stages of recovery. Blundon and Smits [27] state that there is no strong evidence supporting the effectiveness of either of these approaches in enhancing occupational performance. Neither approach is client centred, nor do they take the client's personally felt or expressed needs into consideration.

7. Return to work programmes

7.1. Holistic return to work programmes

Another programme that is used to gain employment among the brain injured population is the holistic cognitive rehabilitation programmes. It is normally described by three phases, namely, holistic remedial intervention focussing on the general strategies to aid daily living; guided occupational trials in vocational placement and support for the maintenance of employment. Ben-Yishay, Silver, Piatsetsky and Rattok [29] investigated the return to work success rates of 94 participants who participated in a head trauma programme which utilised a holistic cognitive approach. The study results revealed a 63% return to competitive work at the levels (academic, skilled and unskilled).

Sarajuuri, Kaipio, Koskinen, Niemelä, Servo and Vilkki [30] describe a comprehensive neurorehabilitation programme as an alternative to returning to work. The above programme, which could be classified as a holistic cognitive programme, consisted of a post-acute, intensive interdisciplinary six week rehabilitation programme. In this programme a treatment group was compared to a control group. The treatment group received neuropsychological rehabilitation, psychotherapy, vocational intervention and follow up support. The control group received conventional care and rehabilitation. In the latter study productivity was defined as working, studying or participating in volunteer activities. The results indicated that 89% of treated patients returned to a productive pursuit in comparison to 55% of the control group. One critique of this study is that of the 19 participants, only three participants returned to part time work and one to full time work.

7.2. Supportive employment

Supportive employment is defined as competitive employment in an integrated setting with ongoing support services for people with the most severe disabilities. [31] Jones, Perkins and Born [32] further described supportive employment as programmes that promote self-sufficiency and improve the quality of life of people with disabilities by motivating them to pursue work in the traditional environment at equal pay to non-disabled people. Supported employment programmes provides assistance with job coaches, transportation, assistive technology, specialized job training and tailored supervision. [33] Wehman, West, Kregal, Sharron and Kreutzer [34] conducted a study utilising the supportive employment framework in which 87 participants participated. The results indicated that only 51.3% of the participants were employed after a period of 12 months. The above authors attributed the poor return to work rates to medical/health problems, economic lay off, slow/poor quality work, poor job

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match and inappropriate behaviour by the participants. In a study conducted by Wehman, Sharron, Kregal, Kreutzer, Tran and Cifu [35] of the 80 participants, the monthly employment ratio increased from 13% before services to 67% after participation in the supportive employment programme. However, only 46% of these participants maintained continual employment. The authors attributed the poor return to work rates to psychiatric/psychological complications, social adjustments and substance abuse. Another study by Preston and Ulicny [36] showed that in a sample of 124 participants, 61% were either placed in a competitive job setting or were considered job ready at the time of program completion with half of those placed in competitive employment found employment with their former employers, even though some job modifications were required. In a more recent study Gamble and Moore [37], followed 1073 participants with TBI of which 78% received supported employment services during the vocational rehabilitation process. Of the participants, 48.6% were competitively employed by the time their cases were closed and 51.4% were not employed. Of the participants who were not employed, 7.3% were provided with additional supported employment services and 92.7% were not provided with supported employment. Of the clients who were provided with supported employment, 67.9% of these clients were placed in competitive employment.

7.3. Summary of return to work programmes

Holzberg [33] states that the most effective treatment approaches in North America are holistic cognitive rehabilitation and supported employment services. These approaches consist of elements of the remedial and adaptive approaches but go further in assisting the client to gain or maintain employment. However, neither the holistic cognitive rehabilitation nor the supported employment services reveal highly successful return to employment rates. [29, 34] According to Sarajuuri et al. [30] employment rates for patients with traumatic brain injury have ranged from 19% to 99%, thus indicating that there is disparity pertaining to return to work rates of this population.

7.4. A need for the exploration of the personal perspectives of brain injured individuals

There is a lack of research that address the personal experience of brain injured individuals when adapting to their worker role after rehabilitation. Johansson and Tham [38] indicate that one area in which there is a lack of knowledge is the meaning of work to people with brain injuries. It could be argued that it is important to take the perspectives of the individual living with the brain injury into account especially when developing rehabilitation models of intervention programmes. Similarly, there are minimal occupational therapy studies that focus on the lived experience of brain injured individuals. [38] The literature suggests that the quality of intervention programmes and services tend to be ineffective when the health professional does not take the brain injured individual's self-identified needs into consideration, hence it needs to be client centred. [39] My exploration of the literature also revealed only one study that focused on the best practice for maintaining employment. [33] The study described the best practice for gaining and employing people with brain injuries from a developed world perspective. However the study lacked information on how brain injured individuals adapt to different working environments and it lacked the incorporation of the personal perspectives of the brain injured individuals themselves.

8. Description of the model of occupational self efficacy

The structure of the model is a spiral which indicates that the stages of the model are not linear (see Figure 1). The individual can fluctuate between the stages due to his or her level of Occupational Self Efficacy. In between each stage is another spiral representing the influence of the environment on the individual's performance. The environment is also presented by a spiral as the environment will affect the person's performance throughout the four stages of the model. The environment may present family members, structural barriers, workplace, work colleagues, health professionals and external organizations. Throughout the process of developing Occupational Self Efficacy, there are critical contacts. These contacts serve as points of activation which set the process into action. These contacts include the contact with the occupational therapist or health therapist that facilitates the first stage of the model. Other forms of contacts may include the person himself, family members, health care team, other brain injured individuals who had completed rehabilitation and work colleagues. It is envisaged that these critical contacts could be present throughout the four stages of the model.

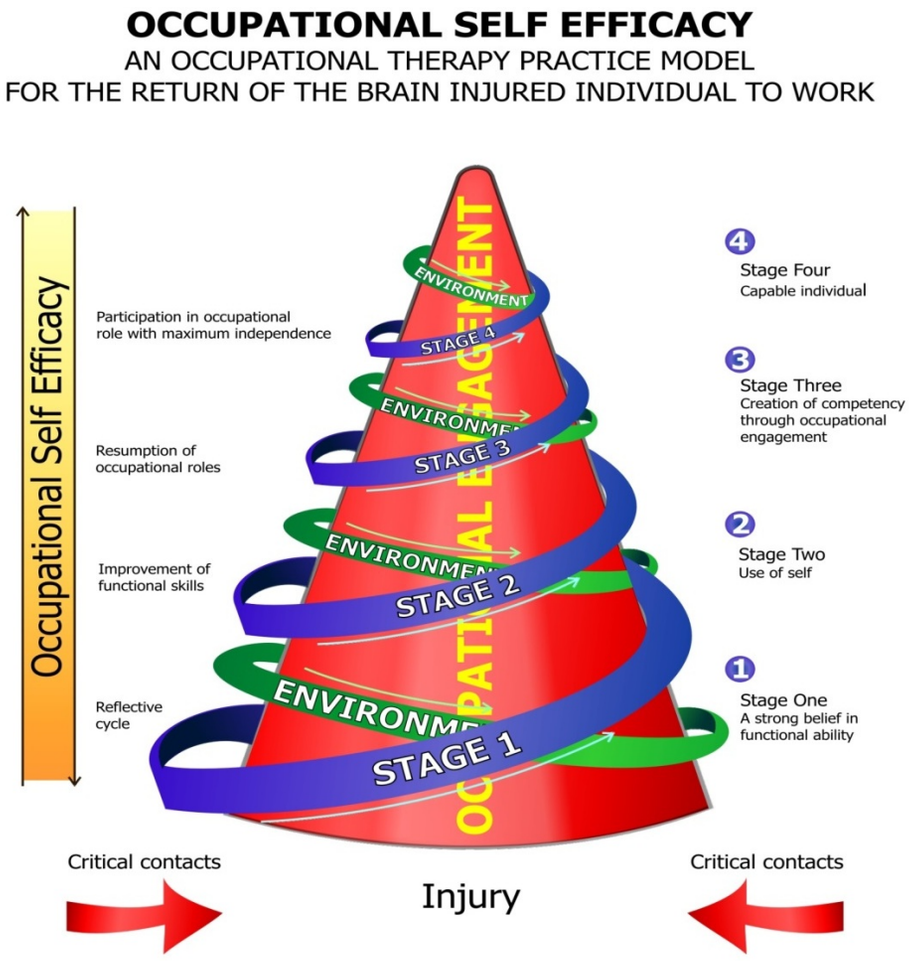

Figure 1. A graphical description of Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain injury.

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STAGE ONE

During this stage the brain injured individual would be seen as an outpatient in the rehabilitation unit, a client that is receiving home based intervention in the community and or a client that has already resumed employment. Regarding the participant's cognitive status it is envisaged that he or she should be classified on level VIII of the Ranchos Los Amigos cognitive scale. The scale describes an individual that is alert and orientated, is able to recall and integrate past and recent events, and is aware of and responsive to his or her culture. [40] Based on introspection and reflection the client would be able to develop new insights into his or her ability to cope within the environment. This process will enable the client to develop inner strength and a sense of efficacy. Ultimately the client would be able to better plan his or her choices and future actions through this process. The occupational therapist facilitates the process of reflection as advocated by Gibbs [41]. This process of reflection would in turn encourage introspection.

Reflection is described by six steps namely:

Step one: Description of the event or what happened:

During this step the occupational therapist would request that the client give a detailed description of the event or concern that he or she may have. This concern may be related to feelings regarding the acceptance of the brain injury, barriers that he or she may be experiencing relating to occupational roles and community re entry or return to work. During this step the client will be encouraged to reflect on the environment, context of the event or action, other people's roles and his or her role as well as the outcome of the event.

Step two: Feelings

During this step the occupational therapist will enable the client to explore his or her thought processes. The client will explore his or her feelings regarding the actual event or stressors. They may want to know how the event or people made them feel and also how they felt about the outcome of the event.

Step three: Evaluation of the circumstances

During this step the client will be requested to evaluate his or her circumstances or make a judgment about his or her experience regarding the event or phenomena of interest. The occupational therapist will enable the client to consider what was good and bad about the experience. For example if the client was reflecting about a problem in performing tasks at work, the occupational therapist would ask him to think about what is required to do the tasks. Is it the process of doing the task that is difficult, is it the tools or equipment that is difficult to manage or is it the instructions that are difficult to understand? Once the problem is thoroughly evaluated then the individual needs to determine which aspects of the processes he or she did successfully.

Step four: Analysis of the situation or problem

During this step the client will be encouraged to break the problem into its component parts. The client may have to thoroughly analyze the problem as a whole. Here he will ask questions

such as what went well and what did not go well. During this process the client may have to determine who would be able to assist him in rectifying the problem and also what he or she needs to do in order to rectify or minimize problems. For example the client may need to seek further training in order to improve his skills, he or she may need to adapt his tools or her or work routine.

Step five: Conclusion

During this step the client reflected on his or her problem situation by exploring it from different perspectives. The client has now accumulated a lot of information which will enable them to develop insight into their problem. The occupational therapist needs to encourage the client to be as honest as possible in his or her reflection about him or herself and others regarding the issue of concern. This honest exploration of the problem should be reflected in all the stages as inaccurate information may decrease the valuable opportunities for learning.

Step six: Action plan

The client will be requested to think about him or herself in the same situation or experiencing the same problem. He or she will then have to determine whether he would manage the problem or situation in the same way as before or would he or she manage the problem or situation differently. The above process could take place with the client alone or in the presence of his or her family. His or her family could assist the client in the reflection process and in goal setting if appropriate. Stage one focused on introspection and reflection, successfully working through this phase would enable the client to move to the next phase of the model.

STAGE TWO

Through the process of introspection and inner strength development, the client would be able to realize his autonomy to participate more in occupational activities of choice (i.e. activities of daily living, leisure and work). During this stage the occupational therapist would continue to act in the role of a facilitator as the self reflection process would have enabled the client to develop a plan of overcoming the barriers that they experienced at that point in time. Specific areas that need remediation according to the needs of the client will be focused upon. During this stage, specific components of function may need to be enhanced. For example, clients, in collaboration with the therapist, may decide that they need continued rehabilitation in order to improve their range of motion, muscle strength, tone, co ordination and balance. They may also require continued cognitive behavioural therapy whereby the client's memory, concentration and frustration tolerance are improved. At this point, the occupational therapist will be acting in a dual role that of a facilitator and of a case manager. In the role of a case manager the occupational therapist would enable the client to contact other role players such as a speech therapist, physiotherapist or physician who may be able to assist the client. Ultimately the goal would be for the client to act as his own case manager however, initially the occupational therapist would be able to facilitate the process. During this step, the client in collaboration with the occupational therapist would utilize a transdisciplinary[1] approach whereby all of the stakeholders may it be health professionals, employer or family should be aware of the client's goals. For example, if the client's goal is to return to work then the physiotherapist, occupational therapist, family and employer should be aware of this goal. This means that even if the

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physiotherapist focuses on balance and the speech therapist on improving communication skills, the ultimate goal of these health professionals would be to return the client to the work place. The client through participation in meaningful occupation would realise his strengths, weaknesses and potential. Engagement in occupations of choice would also enable the client to revise their self concept and ultimately improve their self esteem. Calhoun and Acocella [42] defines the mental self portrait as comprising three dimensions namely knowledge, expectations and evaluation of self.

Knowledge of self is described by what the person knows about him/herself. It is envisaged that through the participation in occupation the client revises their knowledge themselves. For example, through a simple activity such as dressing, the client would be able to get an idea of their functional limitations.

Expectation of self is described by the person's perceptions of what he or she could be. These expectations in turn propel the client into the future and guide his or her actions. The client, who has an expectation of returning to his or her role as a worker, would be able to visualize what actions will be required to return to work. These expectations become realistic expectations when the client is allowed to actually engage in work tasks. Through engagement in these tasks the client would develop the insight to adjust his expectations of self.

Evaluation of self is described by the person's judgment about him or herself, measuring what he or she is against, his or her expectations of self or his or her standards for self. The client's perception of their satisfaction with themselves facilitates their self esteem. It is important to note that there should be balance between the client's actual self or functional ability in occupational tasks and their expectations of themselves to enable them to develop a realistic self esteem and self concept.

STAGE THREE

This stage is described as the creation of competence through participation in occupation. During this stage the client will focus on a specific occupational performance area (i.e. work). If the client has not resumed his worker role he or she will gradually be reintegrated into this role. In stage two the client had already participated in intervention programmes aimed at improving their functional performance. He or she now has the functional skills to resume his or her occupational roles. The occupational therapist will continue to act as a facilitator and case manager where the client will be encouraged to self reflect and problem solve the manner in which he would like to resume employment. The client will be encouraged to utilize their social relations by initiating contact with stakeholders such as the employer, colleagues, health professionals and family for the purpose of participation in their worker role and in order to improve their support systems. This stage will place emphasis on improving the client's knowledge base. The occupational therapist will encourage clients to improve their problem solving skills. The client will be encouraged to use the reflective process as a method for solving problems. The occupational therapist may want to refer the client to another occupational therapist who specializes in vocational rehabilitation, work assessment or screening or they

1 A transdisciplinary model of functional rehabilitation is described as a model where health team members conduct an integrated evaluation that results in the collaboration of assessment information. [43]

could initiate this process themselves. The client will be requested to demonstrate a problematic workplace scenario. For example, a client who had worked as a sales person may indicate that he or she has a problem in coping with difficult customers. The occupational therapist will request that the client verbalizes the actual workplace problem and will then advise him or her on various coping strategies that may assist him or her. The client will be asked to analyze the reasons why he or she struggled to cope with customers. Possible reasons could be a lack of assertiveness or poor communication skills.

The client will be asked to role play a scenario where they did not cope with a difficult customer. He or she will then be requested to identify the reasons why he or she could not cope. Thereafter they will be asked what they could have done to change their interaction with the difficult customers (if role playing a conflict situation between service provider and a difficult customer). The client in collaboration with the occupational therapist will then physically and practically role play a scenario where they expresses the desired behaviour to improve their interaction with the difficult customer. Feedback will then be given to the client regarding his or her behaviour and approach. The family and or other patients who have suffered from a brain injury could give feedback if this stage is done in a group set up. The client and the occupational therapist would then be responsible for setting up a work test placement with his existing employer. The work test placement will entail that the client perform the actual duties of his occupation under supervision of the occupational therapist who will be acting as a job coach. At this stage the employer or a designated person from the workplace could be present to ensure that the work is performed according to the required standard. The client's work performance would then be monitored with a schedule. The schedule would assist the occupational therapist in observing the client's occupational (work) behaviour, components of function (i.e. physical components of function and psychological components of function), his or her work endurance and productivity. After the work test placement which may be 1-3 days in duration, the results will be discussed with the client. The client and occupational therapist would engage in the reflective process where their opinions about their performance will be explored. Any problems or aspects that did not go well and aspects that did go well will be discussed. After the discussion the client and occupational therapist may have to explore the use of assistive devices in order to make the job easier, or consider workplace accommodation strategies and adaptation to workplace routines. Furthermore the client and occupational therapist may explore his or her legal rights within the workplace, possibly in the form of their right to work in a safe environment, their right to be reasonably accommodated in the workplace and their right to access disability pension benefits, if applicable. Based on the client's perceptions of their performance and realistic expectations they may choose to seek another form of employment to accommodate their current functional capacity.

During this stage the client would develop renewed confidence and knowledge of their ability to resume their occupational role as a worker. This paves the way for stage four which is the development of the client into a capable individual.

STAGE FOUR

During this stage clients would be encouraged to undergo self reflection about the previous stages and about their ability to participate in the occupational role as a worker. The client

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ultimately would synthesize and internalize the actions that they undertook and skills that they learnt during the previous stages. He or she would be able to conceptualize his or her ability to overcome various barriers to participation in his or her worker role. It is important to take note of the model's dynamic and spiral nature. This means that a client could revert back to a previous level based on his ability to meet the challenges of the various stages. Ultimately this stage emphasizes an individual that has fully accepted their condition and that has developed a strong occupational efficacy to overcome various barriers to the worker role.

This stage is also described by prolonged participation in the satisfactory worker role whereby the client experiences meaning and fulfilment. There may be a positive interaction between the client and the environment, which may consist of the family system, work system and health system. During this stage the client would view themselves as capable and would be able to engage in the worker role with maximum independence. The occupational therapist`s role is gradually withdrawn. This process will be a unique experience for each client.

9. Guidelines for the operationalization of Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain-injury

9.1. To facilitate a strong personal belief

The following guidelines should be implemented in order to achieve the above objective:

- An occupational therapist that specializes in vocational rehabilitation and or the treatment of the brain injured individual should facilitate the process of introspection.
- The occupational therapist should have insight into the brain injured individual's social, community and cultural dynamics.
- The occupational therapist should have in depth knowledge about the treatment of the brain injured individual, his workplace and job description.
- Through collaboration with the individual and his family the occupational therapist should facilitate the process of reflection. The steps as advocated by Gibbs [38] should be used.

9.2. To encourage the client's use of him or her self

The following guidelines should be implemented in order to achieve the above objective:

- The occupational therapist continues to function in the role of a facilitator. He or she continues to facilitate the process of introspection of the client.
- The occupational therapist encourages occupational engagement in tasks such as activities of daily living, using transport and vocational related activities.

- The occupational therapist should have good communication skills, problem solving skills, negotiation skills, empathy and be transparent. He or she should be a role model to the brain injured individual.
- In addition to the role of a facilitator the occupational therapist would act as a case manager in that he or she would have to be able to provide the participant with choices relating to continued rehabilitation or return to work.
- Furthermore the occupational therapist, in their role in the medical team would facilitate a client centred approach to intervention.

9.3. To enhance competency through occupational engagement

The following guidelines should be implemented in order to achieve the above objective:

- The occupational therapist will continue to act in his or her role as a facilitator and the participant will be guided into participation in his or her worker role.
- Client centred practice will enable the client and therapist to identify various needs that will enhance competency in occupational roles. For example, if there is a need to improve the client`s life skills such as coping skills or assertiveness skills then this will be a focus of intervention.
- The occupational therapist will continue to act as a case manager in that he or she would enable the client to identify and utilize resources that will enable him or her to resume their worker roles. The occupational therapist will put the client into contact with stakeholders such as the employer, relevant people in the medical sector and family members as this will form a base for long term support.
- Supportive employment workshops will be held with the client and his employer whereby gradual return to work will be emphasized. During this process the client and occupational therapist will identify further needs that the client may require such as the use of compensatory equipment or techniques.
- Work test placement with the client's previous employer will be initiated and workplace accommodation should be encouraged

9.4. To develop a capable individual

The following guidelines should be implemented in order to achieve the above objective:

- Self reflection pertaining to the client`s performance in work related tasks should be emphasized
- Prolonged participation in the occupational role as a worker should be encouraged and positive interaction/communication between the client, environment, worker and family should continue
- Transformation of the client into a capable person, who would be able to participate in the worker role with maximum independence, is the final goal.

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10. Application of the case study

10.1. Case study 1

J.K. Is a 20 year old female who suffered a moderate brain injury at the age of three, a taxi driver lost control of his vehicle and drove into JK who was walking with her mother on a pavement. She has a Grade 11 level of education which she completed at a school for children with physical and mental disabilities. JK lived with her parents and 3 siblings in a low socio economic area, both her parents were unemployed and the family was dependent on a government support grant. As JK was injured while being a pedestrian, she qualified to have compensation from the South African Road Accident Fund. This compensation was +/- R1000 (equivalent to U$100) per month.

Results: Individual is currently employed for 8 months at a Fast Food Restaurant.

- **Stage 1** A strong personal belief

  – Ranchos Los Amigos scale VIII

  –**Introspection**, Gibbs reflection cycle- Initially it was very difficult to get JK to trust the health therapist as she was protected by her parents all her life. The health therapist had to arrange intervention sessions with JK at her home as well as at the restaurant where she was going to work. It was difficult to get JK to attend the sessions on her own initially as she did not feel competent in using transport independently. The type of questions asked included: Describe the incident, 2) Practically how has the incident changed your life/ circumstances? 3) Emotionally, do you think that your ability to do tasks is different when compared to your ability to do tasks before the accident?

  – JK slowly responded to the questions and really had to introspect and accept what had happened to her and focus on improving her work skills. JK decided that she would want to work in the food retain industry. She initially wanted to work in a bakery where she could bake and prepare various delicacies.

- **Stage 2** To encourage the client's therapeutic use of him or her self

  – Introspection continued: During stage to JK and the health therapist focused on improving her work skills such as numeracy and comprehensive ability. Furthermore JK was walking with an "abnormal gait" as a result of the TBI. The health therapist had to assess whether JK`s abnormal gait was going to affect her ability to initiate tasks such as standing for more than 30 minutes and walk over short distances while carrying weights and trays. At this stage it was felt that no further rehabilitation was going to improve her gait and that compensatory measures had to be used by the participant. These compensatory measures included the use of memorization/visualization techniques, whereby JK had to remind herself about the pace at which she was walking, the structural barriers such as steps in the workplace, distances between restaurant tables, danger of certain equipment example stoves and fryers, distance of transportation pick up points for employees of the etc.

– During this stage the health therapist acted in the capacity of a case manager the aim was for the client to take responsibility for his or her own rehabilitation.

- **Stage 3**: To enhance competency through occupational engagement

  – Focus on the occupational area of work. During this phase the health therapist and JK focused on improving JK`s work skills such as coping skills, problem solving skills, use of transport, money management, setting up a CV, basic work abilities (social presentation, communication skills, ability to work an 8 hour work shift) and in-service-training. During this stage the client (JK) was asked to reflect back onto her initial goals i.e. working in a food retail or fast food restaurant environment. The health therapist and JK identified the requirements of working in a super market and a fast food store. A job analysis was performed whereby the physical layout of the workplace, equipment used, hours worked and job tasks were explored in detail. The health therapist communicated with possible employers in the food retail industry in order to provide JK with a work experience opportunity. JK was provided with an opportunity to work for 5 hours initially in order to determine how she will cope in the new work environment. A meeting was set up with the restaurant manager, JK and her mother, and the health therapist. The type of work duties, hours of work as well as what should be done if a problem occurs. During stage two, the health therapist arranged a meeting with staff members of the restaurant in order to prepare them for the arrival of JK.

  – The type of intervention used before the provision of the work experience included role plays of different problems that could occur in the work place. These roles plays helped improve the client`s life skills such as coping skills, problem solving skills and assertiveness. Her work performance was monitored with a work schedule (see Appendix 1), the work schedule could give the client a visual concrete view of how their performance was improving during the work skills training process. During this period of time, the client worked reduced hours initially, she also only worked day shifts, however as her confidence and skills improved, her work hours increased and she was allowed to work night shift duty. The client was provided with weekly supervision initially thereafter, the supervision was decreased to twice monthly.

- **Stage 4**: To develop a capable individual

  – During this phase the client was requested to undergo self reflection about the previous phases (i.e. she internalised the skills that she learned). She was asked to identify how her work skills and confidence improved during the four phases. JK indicated that she was able to use transport independently, she was able to work any work shift provided and that she has mastered most of the work tasks in the fast food restaurant. She also indicated that she would follow a systematic problem solving process should she experience any difficulty at work e.g. write down the difficult problem that she experienced and explore options of solving it. The supervision process was reduced to once every three months with on- going telephonic supervision when required. At the end of one year the supervision was drastically reduced as the client did not require constant supervision.

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10.2. Case study 2

Application of the case study

S.S is a 24 year old male who suffered a moderate brain injury at the age of 20, he sustained a stab wound to the head by gangsters. SS has a Grade 12 level of education and was going to study at a local University. Due to the extent of his injury, he decided to rather discontinue schooling in order to recover and find employment. After participating in physiotherapy and occupational therapy intervention, SS tried to find employment, however was unsuccessful. Due to him struggling with comprehension and numeracy skills he struggled to obtain work that required administrative skills. SS was dependent on a disability grant which is equivalent to U$100. SS is single but has 2 dependents, he is currently living in a low socio economic area. SS has had no formal work training prior to the injury, however he reported that he was working at a fast food restaurant as a general assistant.

Results: Individual is currently employed for 8 months at a Fast Food Restaurant.

- **Stage 1** A strong personal belief

  – Ranchos Los Amigos scale VIII

  –**Introspection**, Gibbs reflection cycle- During the stage of reflection and introspection, SS clearly indicated that he wanted to improve his employability skills by improving his level of education. He felt that he would not be able to resume employment in a "well paid" job without a tertiary qualification. However during the work skills assessment it was obvious that he needed intense remediation regarding his reading and writing skills. The type of questions asked included: Describe the incident, 2) Practically how has the incident changed your life/ circumstances? 3) Emotionally, do you think that your ability to do tasks is different when compared to your ability to do tasks before the accident?

  – SS responded openly to the questions and it was clear that he was determined to find employment in the Open Labour Market. As SS was determined to improve his work skills, he was informed of the possibility of completing a short course in the area of entrepreneurship with the South African Department of labour. As an incentive to complete the course he was provided with a monthly stipend of U$200 in addition to his disability grant. The initial intervention sessions took place in a hospital environment.

- **Stage 2** To encourage the client's therapeutic use of him or her self

  – Introspection continued: During stage to SS was provided with the details of the short course especially the duration of the course as well as where the course was going to be offered. He was encouraged to make contact with the service provider and ask questions related to the course. This would therefore enable him to take responsibility for improving his own work skills. After engaging in tasks such as developing a CV, doing simulated administrative tasks (arranging files and post alphabetically) and doing inventory related work such as collecting stock from shelves and placing stock on shelves using a product list; he increased his confidence to engage in administrative tasks. SS successfully completed the entrepreneurship short course with the Department of labour over a period of 12 months.

Some of the questions asked to the participants during this phase included: 1) How did you find the rehabilitation experience so far? 2) What in your opinion was beneficial and not relevant about the experience, 3) How do you think you could use what you were taught practically in a work experience or at home? 4) Do you think you have improved as a worker?

- **Stage 3**: To enhance competency through occupational engagement

  – Focus on the occupational area of work. During this phase the health therapist and SS focused on providing SS with a work experience and integrating him into the Open labour market. A company that manufactures soft drinks indicated that they were willing to provide him with this work experience over a period of 2 months. An initial meeting was arranged with the staff members and Human Resource manager of the company. The purpose of the project was explained as well as there was a discussion that focused on the fears that staff had in working with individuals who was diagnosed with a brain injury. This initial discussion with staff members was fruitful in that in improved the insight of staff members regarding the strengths and limitations of individuals with brain injury.

His work tasks included operating a conveyor belt as well as separating poor quality bottles from good quality bottles. He also had to keep a schedule of the amount of bottles packed into crates and had to collect raw material from the company stores. The health therapist regularly contacted the line manager in order to monitor SS`s work performance. His work performance was measured according to the company work performance chart. As he performed at the same level as his colleagues, this enhanced the confidence of SS as he could measure his own work standards to the standards required in the Open Labour Market. In terms of the work shifts, SS was only required to work night shifts.this period of time, the client worked reduced hours initially, however as his confidence and skills improved, his work hours increased and he was allowed to work night shift duty. The client was provided with weekly supervision initially thereafter, the supervision was decreased to once monthly.

- **Stage 4**: To develop a capable individual

  – During this phase the client was requested to undergo self reflection about the previous phases (i.e. he internalised the skills that she learned). He was asked to identify how his work skills and confidence improved during the four phases. SS indicated that he was able to use transport independently, that he completed the training course successfully and that he can relate to work related tasks. He could use transport independently, he was able to work any work shift provided and that transport was made available at the end of their night shift. She also indicated that she would follow a systematic problem solving process should she experience any difficulty at work e.g. write down the difficult problem that she experienced and explore options of solving it. The supervision process was reduced to once every three months with on- going telephonic supervision when required. At the end of one year the supervision was drastically reduced as the client did not require constant supervision. SS was offered a 12 month contract at the soft drink company.

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11. Conclusion

The model of Occupational Self Efficacy could be used in both a private and public hospital or rehabilitation setting. It could also be implemented in the homes or workplaces of the clients. The model could used in conjunction with other treatment modalities such as biomedical and cognitive rehabilitation approaches. Furthermore the model focuses on using reflection and improving self efficacy beliefs through engagement in work related tasks. Inevitable the model seeks the bridge the gap from rehabilitation and returning to work. Finally the model provide a step by step process for developing occupational self efficacy and resuming the worker role of the individual with the brain injury.

Appendix

WORK ABILITY SCREENING TOOL

Key:	
1-INCAPABLE WEAK	2
3- BELOW AVERAGE AVERAGE	4
5- ABOVE AVERAGE EXCEPTIONAL	6

WORK HABITS	
PERSONAL PRESENTATION	*Remarks (if any)*
Date:	
Attendance	
Punctuality	
Self – discipline	
Helpfulness	
Attitude	
SOCIAL PRESENTATION	
Date:	*Remarks*
Ability to work with supervisors	
Ability to work with co- workers	
Need for strict limit setting	

Ability to handle criticism	
General social interaction with co- workers and supervisors in the unit	
Co – operation	
Ability to fulfil a supervisor role	
WORK COMPTENCY AND SKILLS	
Date:	Remarks
Ability to follow verbal instructions	
Demonstrated	
Written	
Illustrated	
Ability to follow and execute instructions 1-3 steps	
Ability to follow and execute instructions 1-6 steps	
INSTRUCTION RETENTION	
Date	Remarks
Ability to listen	
Comprehension	
Interpretation	
Accurate execution of instructions with minimal or no prompts of the assessor	
TASK PLANNING AND EXECUTION	
Date:	Remarks
Orientation to work area	
Planning of work area in relation to structuring	
Efficiency	
Ergonomics	
Practical planning of the work task in relation to steps of activity	
TASK COMPLETION	
Date:	Remarks
Ability to start the task	
Tolerance to maintain task	
Ability to complete task	
Ability to retain task	

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Ability to recognise errors	
Ability to correct errors	
SAFETY	
Date:	Remarks
Knowledge of equipment and tools needed for task	
Ability to handle tools and materials safely	
Knowledge of where to collect equipment	
Knowledge and implementation of storing equipment safely and clean after use	
Implementation of basic precautions of own safety in the area	
Awareness and implementation of safety precautions of tools	
WORK TOLERANCE	
Date:	Remarks
Physical endurance in extended sitting posture	
Physical endurance in prolonged sitting	
Physical endurance in repetitive mobilisation from station to station	
Psychological endurance (mood)	
Psychological endurance (ability to work under pressure)	
Ability to sustain work effort	
Number of rest periods	
Reasons for rests	
Prompt return to work after rests	
MOTIVATION	
Date:	Remarks
Intrinsic motivation	
Extrinsic motivation	
Derives satisfaction from being productive	
PERFORMANCE	
Date:	Remarks
Quality of repetitious tasks	
Assembly- line operations	

Packing- assembly- inspecting
Physical/ manual labour tasks
Quantity produced
Hours lapsed to reach above quantity
Speed
General comments (if any):

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