

# Brain Injury Workbook: Exercises for Cognitive Rehabilitation

By Trevor Powell and Kit Malia

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## Introduction

Trevor Powell, a Consultant Clinical Neuropsychologist, and Kit Malia, Cognitive Rehabilitation Therapist, are well known for their work in brain injury rehabilitation and this workbook provides materials developed by them over their many years in this field.

In his introduction, Trevor Powell describes the context in which he uses these materials. He notes that the workbook is primarily designed for use when working with groups of people with brain injury; though he suggests that it can be used equally well in one-to-one sessions or even by the clients independently. He discusses how the groups in which he has used the materials have five different therapeutic aspects including: focused stimulation (mental exercise); learning compensatory coping strategies; acquiring insight and awareness; emotional adjustment; and improving self-efficacy and feeling more in control.

The workbook provides materials that can be photocopied and handed out to clients and is divided into three parts:

## Education about brain injury

Part 1 focuses on education about brain injury. This part provides basic information such as what happens when a head injury occurs, how the severity of head injury is measured, the common consequences of head injury, some basic anatomy of the brain, and the different forms of brain injury. This part concludes with a 'self-assessment' where clients can write notes

on the nature and consequences of their own brain injury.

## Resources for cognitive rehabilitation

Part II provides resources for 'cognitive rehabilitation', and is split into sections on Memory, Thinking Skills, and Executive Skills. The section on memory provides information sheets on understanding memory and strategies for remembering things. There is a clear emphasis on using external aids and mental strategies to compensate for impaired memory. There are various memory exercises including remembering rounds of information (in a group) such as a shopping list, remembering pictures, faces and names, Kim's game (remembering objects seen briefly on a tray), word and object lists, remembering stories, designs, menu items, and numbers (PIN numbers, telephone numbers). In the Thinking Skills section, information sheets describe attention, information processing, sensory and perceptual skills and language skills. Information is also provided on ways of improving attention and concentration and language skills as well as how to cope with perceptual and visuo-spatial difficulties. The exercises in this section include various language tasks, perceptual matching tasks, categorisation tasks, selective attention and working memory tasks. The final section of Part II, on Executive Skills, discusses what executive skills are, using the analogies of the managing director of a company or the orchestra conductor, describing the various forms of executive skills and the concept of dysexecutive

syndrome. Similar to previous sections there is then information on how to improve executive skills and various exercises such as summarising tasks (designed to help people see the wood for the trees), thinking about problems and tasks requiring planning and multitasking.

### **Awareness and adjustment skills**

Part III looks at emotional adjustment first focusing on 'awareness skills' and then on 'adjustment skills'. In the awareness skills section there is information on the various forms of awareness deficit, and discussion of the emotional problems that can occur after brain injury. The exercises in this section are mostly questionnaires or tasks asking the client to rate or describe themselves both before the injury and now, or getting a relative or other independent person to rate the client and comparing this with self-ratings. The final section, on adjustment skills, talks about the stages of adjustment using a bereavement model. Information is presented on goal planning, anger management, depression, fatigue, assertiveness, and time management. The exercises in this section encourage the client to reflect on how he or she thinks about his or her life, looking at goal planning skills, managing relationships, thinking styles and managing mood.

### **Is this workbook useful?**

So, is this workbook useful? There is clearly a lot of good material there, but of course it's not how big it is, but what you do with it, that's most important. To the best of my knowledge there has been no formal evaluation of the efficacy of this specific workbook, so strictly speaking we don't know for sure how useful it is. One of the ways to address this question is to ask to what extent the content and suggested use of the workbook is consistent with best-practice recommendations for cognitive rehabilitation. In recent years, several systematic reviews of the cognitive-rehabilitation-efficacy-research

literature have been carried out. All of these reviews have highlighted that the amount and quality of evidence we have available to us to draw upon to inform our practice remains very limited. Nevertheless, there is now sufficient information to be able to define, in some areas, practice standards. For example Cicerone *et al.* (2000; 2005) conclude that in the domains of attention, memory and executive functioning, training in the use of compensatory strategies is recommended. In all of these domains there is an emphasis on clients learning strategies to compensate for cognitive deficits and being supported to apply those strategies in everyday situations. Cicerone *et al.* make it clear that simply exercising cognitive skills is unlikely to bring about change in everyday functional environments. The focus of the recommendations for coping with cognitive problems in this book is broadly consistent with the conclusions of the systematic reviews, which is good.

There is therefore a clear emphasis in most sections on strategies for compensating for cognitive deficits. Whether or not this workbook is useful will depend on how it is used and to what extent its use is adapted for the individual with whom it is being used. It is clear that the resources are likely to be most useful when used in the manner described by Trevor Powell in the introduction (i.e. by therapists working with people in groups) where the emphasis is on developing awareness of deficits, understanding how to compensate for cognitive deficits, understanding and managing emotions, and so adjusting to life after brain injury. Very few clients with brain injury could be 'prescribed' this book to use completely independently and most will need to be supported to use it and particularly to make the links with their own everyday life. Many of the exercises are mental exercises that benefit from mental strategies, while the information sheets often emphasise the use of external aids and other pragmatic strategies. What is most important if this workbook is to be put to best use is to be aware that clients will vary greatly in which approach is most beneficial. Practicing remembering shopping lists or using visual

imagery techniques to remembering objects is useful to illustrate how memory works, to illustrate the point that using strategies is helpful when trying to remember things, but practicing remembering lists will not improve memory per se and for many people with brain injury will not be something that can be applied in everyday life.

### Use by Occupational Psychologists

For Occupational Psychologists working in the field of employment and disability this workbook could be useful in working with clients as part of a process of raising awareness of cognitive deficits, reflecting on how these might impact on work, establishing what strategies for managing cognitive problems might be useful and, probably the most critical step, supporting people in applying those strategies in the work environment (in vocational rehabilitation, work trials, voluntary work or paid employment). Clearly the exercises in this workbook are general and not specific to the situations of the individuals you are working with. This means that the critical task is developing strategies for managing cognitive and emotional problems that can be applied by the individual in his or her everyday life. Anyone using this workbook must remember that a person with brain injury may have great difficulty generalising from one situation to another. This is particularly the case with problem solving. We know from the literature on problem-solving that it can be difficult to make the link between two tasks where the basic problem and solution are similar, but the task-content is different. In other words, people with brain injury may need to be supported to apply strategies learned to help them complete a paper and pencil planning task to new situations.

There are exercises in the book focused specifically on work. For example, one asks clients to identify the key skills required for their previous work, the main problems caused by the injury which are likely to cause difficulties at work, the characteristics of an ideal job, and

three kinds of jobs that the client could do taking into account residual difficulties. I can imagine most Occupational Psychologists working in the field of employment and disability thinking, "if only it were that simple!". You would be right to think that, but of course this raises again the issue of how the workbook is used, which is so critical to whether it will be useful – if such exercises are used as part of a more extensive process, with support, then they will be useful. Helping a client to understand the consequences of his or her head injury, to think about the demands of the work environment, to think about how cognitive problems might impact and about how to address those cognitive problems or adjust the work environment are sensible ways to proceed. Completing a couple of exercises in the workbook will not achieve all these steps, but I am sure that nobody would claim that it would. The exercises may, though, be one component of the process of raising awareness which can be built upon with support.

One criticism that has been made of this workbook by at least one author of a neuropsychological test is that a small number of the exercises include items or tasks that are very similar in content to some standard cognitive tests (e.g. interpretation of proverbs; planning a route around the theme park). Some concern has been expressed that by training on these tasks one might inadvertently train someone to be better at a particular neuropsychological test so giving a false representation of actual performance if that person is assessed again using that test. If you use this workbook, it might be best to leave out those examples.

### Conclusion

So, in conclusion, I think this workbook, if used properly, can be very useful. We are all short of time and so having a set of ready-made materials to draw upon is a great resource. But the greatest challenge in cognitive rehabilitation is enabling clients to cope with cognitive deficits in everyday life, including work. Trevor Powell describes at one point the workbook being a

'cookbook'. Personally I don't like the use of this term here, because a cookbook approach implies that there is a specific set of ingredients and steps which, if followed exactly according to the recipe instructions, will produce the same perfect result every time. Clearly this workbook can't be used in this way. Rather than a cookbook, perhaps it should be thought of as a toolbox – specific components can be selected and used according to individual needs, but the tools are only useful in the hands of a skilled operator. The shelf put up by the amateur DIY enthusiast might look good for a while, but is likely to fall down. The one put up by the experienced joiner will stay secure and do its job well.

## References

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