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A TASK-SPECIFIC APPROACH TO JOB ACCOMMODATION IN PHYSICALLY-DEMANDING POSITIONS

by

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DEDICATION

To Elana... I am truly blessed to have you in my life.

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Praise the Heavenly Farther.

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SYNOPSIS

Title	: A task-specific approach to job accommodation in physically-demanding positions
Candidate	: George Francis Bester
Promoter	: Prof. P E Krüger
Department	: Biokinetics, Sport- and Leisure Science
Degree	: Doctor Philosophiae

Throughout the world, including South Africa, various approaches have been identified and implemented in an attempt to ensure that employees in physically-demanding positions are properly managed from a physical work capacity point of view, the primary goal always being to return the employee in need of assistance to full working capacity as soon as possible. The burning question has, however, always remained: "What happens to the employee in the meantime?"

This study focused on exactly that question, the aim being to develop a comprehensive tool to assist all parties concerned in managing the affected employee through the application of task-specific job accommodation.

The predetermined goal of the study was to develop a task-specific job accommodation tool for a physically-demanding position. This was achieved through a number of steps, which included an extensive literature review, a thorough job analysis, identification of a suitable test battery with related minimum physical requirements and cut scores, interviews, and the eventual development of the tool.

Once the task-specific job accommodation tool was completed, the next step was to make use of three case studies to assist in illustrating the way the tool is to be implemented, as well as to show the potential value of its implementation. The information from three actual incapacity cases in the company concerned was used for these case studies.

The results from this study are extremely positive and the three case studies have provided a glimpse of the potential value that could be added through the implementation of the job accommodation tool. The final product will greatly assist the company concerned in managing incapacitated employees in a manner that is beneficial to both the company and the individuals involved. Hopefully, this study will contribute to bring about a new era in the way South African companies and their occupational health departments approach the management of their incapacitated employees.

Keywords

critical physical demands
incapacity
inherent requirements of a job
job accommodation
job analysis
minimum physical requirements
physical ability testing
physical work capacity
physically-demanding job outputs
physically-demanding positions
physically-demanding tasks
task-specific

SAMEVATTING

Titel	: 'n Taak-spesifieke benadering tot werksaanpassing in poste wat fisiek van aard is
Kandidaat	: George Francis Bester
Promotor	: Prof. P E Krüger
Departement	: Biokinetika, Sport- en Vryetydswetenskappe
Graad	: Doctor Philosophiae

In Suid-Afrika, asook regoor die wêreld, word daar van 'n groot verskeidenheid benaderings gebruik gemaak in `n poging om te verseker dat werknemers in poste wat fisiek van aard is doeltreffend bestuur word uit die oogpunt van fisieke werkskapasiteit. Die primêre doel met sulke benaderings hou gewoonlik verband met die vinnige herstel van fisiek-onbevoegde werknemers ten einde so gou as moontlik hul volle kapasiteit om werk te kan verrig terug te kry. So 'n benadering is goed en wel, maar die kwelvraag in so 'n geval bly steeds die volgende: "Wat gebeur in die tussentyd met die werknemer?"

Gedurende hierdie studie het die fokus juis op bogenoemde vraag geval. Die mikpunt was om 'n omvattende instrument te ontwikkel ten einde al die partye wat betrokke is by die bestuur van die geaffekteerde werknemer te help om doeltreffende, taak-spesifieke werksaanpassing toe te pas.

Die voorafbepaalde doel van die studie was om 'n taak-spesifieke instrument te ontwikkel vir 'n spesifieke, fisiek-veeleisende posisie. Hierdie doel is bereik deur 'n aantal stappe te volg wat onder andere die volgende ingesluit het: 'n omvattende literatuurstudie, 'n deeglike posontleding, die identifisering van 'n gepaste toetsbattery met gepaardgaande minimum fisieke vereistes en afsnytellings, gepaste onderhoude, asook die ontwikkeling van die instrument.

Na die voltooiing van die taak-spesifieke werkaanpassingsinstrument was die volgende stap om van drie gevallestudies gebruik te maak ten einde te illustreer hoe

die instrument geïmplementeer moet word, met die verdere doel om die potensiële waarde van implementering aan te dui. Drie ware gevalle in die maatskappy waarop daar tydens hierdie studie gefokus is, is gebruik vir die gevallestudies.

Die resultate wat uit die studie voortgespruit het is uiters positief, en die drie gevallestudies het ’n mate van insig verskaf betreffende die potensiële waarde wat toegevoeg kan word deur die implementering van die werkaanpassingsinstrument. Die finale produk sal ongetwyfeld ’n groot bydrae lewer om die betrokke maatskappy te help met die bestuur van geaffekteerde werknemers op ’n wyse wat voordele sal inhou vir die maatskappy en die betrokke individue. Daar word vertrou dat hierdie studie ’n nuwe era sal inlei in die benaderings wat gevolg sal word tydens die bestuur van fisiek onbevoegde werknemers. Dit geld vir alle soortgelyke Suid-Afrikaanse maatskappye, asook die gesondheidsdepartemente in hierdie maatskappye.

Sleutelterme

fisiek veeleisende poste
fisiek veeleisende werkstake
fisiek veeleisende werksuitsette
fisieke-bekwaamheidstoetsing
fisieke onbevoegdheid
fisieke werkskapasiteit
inherente vereistes van die werk
kritieke fisieke vereistes
minimum fisieke vereistes
taak-spesifiek
werksaanpassing
werksanalise

CONTENTS

TABLE OF CONTENTS

CHAPTER 1: THE PROBLEM

CHAPTER 2: LITERATURE REVIEW

CHAPTER 3: METHODS AND PROCEDURES: GATHERING INFORMATION

CHAPTER 5: RESULTS

CHAPTER 6: IMPLEMENTATION OF THE FINALISED JOB ACCOMMODATION TOOL (THREE CASE STUDIES)

CHAPTER 7: SUMMARY, CONCLUSION AND RECOMMENDATIONS

LIST OF TABLES

LIST OF FIGURES

LIST OF PHOTOS

LIST OF ABBREVIATIONS

A	-	Output score
ADA	-	Americans with Disabilities Act
ADP	-	Adenosine diphosphate
ATP	-	Adenosine triphosphate
beats/min	-	beats per minute
C	-	Cut score
CA++	-	Calcium
cm	-	centimetre
CO_2	-	Carbon dioxide
D	-	Does not meet minimum physical requirement
DND	-	Did not do
FCE	-	Functional capacity evaluation
FT fibre	-	Fast twitch muscle fibre
H+	-	Hydrogen
kcal	-	kilocalories
kg	-	kilogram
kgf	-	kilogram force
l/min	-	liters per minute
M	-	Meets minimum physical requirement
ml/kg/min	-	millilitre per kilogram body mass per minute
mmHg	-	millimetre mercury
MPR	-	Minimum physical requirements
ms	-	millisecond
N	-	Number of subjects
PAT	-	Physical ability testing
PC	-	Phosphocreatine
pH	-	Level of acidity
Pi	-	Inorganic phosphate
R	-	Rand
reps/min	-	repetitions per minute

RPE	-	Rate of perceived exertion
SA ELEC	-	South African Electricity Supply Company
sec	-	seconds
ST fibre	-	Slow Twitch muscle fibre
USA	-	United States of America
VO_2	-	Oxygen consumption
VO_2 max	-	Maximal oxygen consumption / aerobic capacity
$\sum$	-	Sum
1-RM	-	One-repetition maximum
$	-	United States dollar
%	-	Percentage
°	-	Degrees