How much do beverage employees of a South African beverage manufacturer know about occupational health and safety regulations?

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ABSTRACT

Introduction:
The Allied Health Professionals (AHPs) form an integral part of the occupational healthcare system in South Africa and can improve the health and safety of employees and promote productivity. An analysis of the occupation health and safety knowledge of employees will assist in the development and implementation of effective training programmes by identifying gaps in existing health and safety practice and demonstrate the need for more AHPs to be involved in the occupational health specialty. The purpose of this study was to determine how much beverage employees at a South African beverage manufacturer know about occupational health and safety regulations.

Method:
A descriptive, cross-sectional survey design with anonymous return mailing was used. A questionnaire was used as the measuring instrument to capture information about employees' health and safety knowledge.

Results:
Two hundred and eighty two employees returned their questionnaires and 83.5% of these were viable for analysis. One hundred and forty employees (51.3%) were unable to list correctly any of the general health and safety rules applicable to this company. Employees felt that more health and safety workshops and in-service training should be implemented, more occupational healthcare professionals employed and specialised safety courses should be introduced to keep them up to date with safety practices.

Conclusion:
It is concluded that the knowledge of the health and safety regulations of employees can be used to inform a more specialised training programme. This specialised training can be provided by AHPs in collaboration with the company's existing medical department, to encourage a more dynamic and proactive attitude towards preventing injuries in the workplace.

Key words: Health and safety knowledge, Beverage manufacturing company, Employees, Allied health professionals

Introduction

In South Africa, occupational health has undergone several changes over the last decade. The most important change was in 1993 with the promulgation of the Occupational Health and Safety Act (OHSA) which was implemented in 1994. This Act has led to a heightened awareness of employee health requirements and the need for more proactive health and safety measures to monitor hazards in the workplace. It also provides a framework to ensure that both employers and employees meet minimum standards for injury prevention[1]. The provincial and national health authorities are now planning the restructuring of health systems in both public and private sectors with the emphasis being placed on the development of occupational health services. This restructuring of the occupational health market is aimed at making occupational health practice increasingly effective.

The changes that were introduced to the South African workplace healthcare system pose great challenges to the allied health professionals (AHPs), for example, physiotherapists, occupational therapists, speech and hearing therapists etc. These professions in particular have a historical role in promoting health and preventing injury and yet they are not routinely employed by occupational health departments. Traditionally, only occupational health doctors, nurses and technicians are seen as essential in the management of injured employees at work[2]. This is in spite of the integral part that AHPs play in occupational health rehabilitation. This includes, specialised manual therapy treatment, specific injury prevention advice and tailored health promotion activities, functional capacity evaluations, restorative exercises, work hardening and conditioning programmes, pre-work physical and cognitive screening, workplace ergonomics, management of noise-induce hearing loss and worker biomechanics assessments[3].

Although the OHSA explicitly requires that safety training programmes are implemented in the workplace, previous research has shown that generic health and safety training provided by companies has been ineffective in reducing risk in the workplace[4]. Under the Act employees are also responsible for their own health and safety compliance by adhering to safety procedures and carrying out work in a safe manner. In order to determine whether employees are safely performing their duties, their knowledge, skills and motivation to adhere to safety regulations should be investigated[5]. It is beyond the scope of this paper to investigate all three of these determinants and so this study will focus on determining the current health and safety knowledge of employees at a beverage manufacturing company. The rationale for choosing the knowledge determinant was that, in order to work safely and productively, employees must firstly have the knowledge of the safety regulations so that they know what safely practices are expected of them, then secondly, they must have the skill to be able to perform these practices and thirdly have the motivation to practise safe behaviours in order to comply with safety legistation[5].

At present, the extent to which AHPs have been involved in the South African occupational health sector has been limited[6].

In addition, with the ever changing healthcare scenario in South Africa, AHPs need to demonstrate that they can adapt and deliver a service to occupational health departments and that their service truly makes a difference[7]. The implications for AHPs being ignorant of and not meeting the health and safety needs of employees and companies, risks professional credibility within the occupational health specialty. By determining how much employees know about the health and safety regulations of their company will provided the AHPs with the information needed to identify the gaps in the employee knowledge and to encourage companies to take appropriate measures of ensuring that their training sessions are effective. The knowledge of how aware employees are of the healthy and safety regulations could also be used to motivate for the employment of AHPs to work in collaboration with the companies existing medical department to deliver more specialised training sessions. This could improve the health and safety standards of the company, which could in turn improve the productivity of the company.

Purpose

The purpose of this study was to determine the occupational health and safety knowledge of employees at a South African beverage manufacturing company. The employees were also asked to identify and make recommendations of health and safety aspects that should be addressed and improved.

Methodology

Research Design

A descriptive, cross-sectional survey design with anonymous return mailing was used. The anonymous return mailing was used to increase the privacy and confidentiality of the respondents, with the expectation of encouraging more honest feedback, without employees fearing institutional sanctions or penalty

Research Setting

This research was conducted at a beverage manufacturing company within the greater Durban area in South Africa. This specific beverage manufacturing company was chosen because of its national reputation and international links and at the time of the study employed 327 workers. The company consisted of several sites involving the production and storage of beverages. This included seven permanent departments and four contractual departments. The seven permanent departments were the plant box, administration, workshop, medical centre, waste, risk control and stores. The four contractual departments (which have a 3-year renewable lease) were the laundry, catering, mail holding and forwarding services and technical services (i.e. electrical services, carpentry services, air conditioning services). An overview of the medical centre is described below.

Medical Centre

The medical centre consisted of one full-time company doctor, four occupational health nurses and two medical service coordinators. Two types of healthcare were provided, namely, primary health and occupational health.

The primary healthcare service was staffed by the company doctor and one medical coordinator. It provides basic health care and advice to workers who are not members of a medical aid plan. This healthcare included the provision of a single course of medication if required or referral to a provincial hospital for an injury or disease that required more advanced or continued care.

The occupational health clinic was situated within the medical centre and was concerned with work-related health matters. It was staffed by four occupational health nurses and one medical coordinator. The company doctor only dealt with complex occupational health cases which were referred by the occupational health nurse. The occupational health clinic aimed to identify those processes, chemical substances or types of work that could negatively impact on an employees' health and to eliminate, minimise or control the hazard. The identification and assessment of occupational health risks were carried out via the Risk Management Programme (RMP). Consultants were used from time to time to assess the risk or to assist the company in setting up injury prevention strategies so that occupational health personnel could carry out the necessary tasks to assess the injury.

The medical centre was open 24 hours a day, seven days a week. In the event of an onsite emergency where medical assistance was required, an internal telephone number was available. All employees were required to report any occupational injury to the medical service coordinator before the end of their shift. There were no AHPs employed in this company to assist in addressing the health and safety needs of their employees.

Ethical approval

This study received ethical clearance from the University of Cape Town Ethics Committee.

Sample

The target sample included all individuals who were employed at this beverage manufacturing company at the time of the study in order to obtain a true reflection of the health and safety knowledge at this company. As all employees were included, sampling was not necessary. Employees comprised of general staff, administrative staff, technical staff and managerial staff of all ages, gender, years of experience or language spoken.

Instrumentation

A questionnaire was used as the data collection instrument for this study (See *appendix 1*). This questionnaire was developed by the researcher using the health, safety and risk training manual at this beverage manufacturing company. This manual contains information on the occupational health, safety and risk control regulations and guidelines of the KwaZulu-Natal region. It is reviewed on a quarterly basis by the health and safety committee to ensure its compliance with the Occupational Health and Safety Act and Regulations. The questionnaire included both open ended and closed questions to capture information in four categories. The categories included demographic details, general working information, employee awareness of safety procedures and protocols and employee recommendations with suggestions for improvement.

In order to ensure that research done with non-English speaking sectors of the South African population is valid and concurrently reliable, all questionnaires developed taking into account cultural differences should be subjected to a rigorous translation procedure[8]. For the purpose of this study a forward and backward translation process of the English questionnaire and covering letter into Zulu and Afrikaans was done by two qualified translators employed by the former University of Durban-Westville (now the University of KwaZulu Natal). Furthermore, it is equally important to test the reliability and validity of the translated version, particularly if the source culture is very different to the culture in which the instrument is to be utilised[8]. Therefore all questionnaires were piloted at a different beverage manufacturing company prior to distribution and the results were not included in this study. The results of the pilot study indicated that the participants were similar to those in the study in terms of culture and that all questions were clear and unambiguous. Therefore no changes were made to the questionnaire after the pilot study. As the questionnaire aimed to test knowledge, the test-retest reliability was not done, due to the possibility that employees might consult their health, safety and risk training manuals and be able to respond more appropriately on the second occasion, thereby invalidating this test.

Procedure

A meeting was arranged by the author with the a senior human resource officer and two worker union representatives in order to seek permission to conduct this study, explain the purpose of the study and the timeframe by which the questionnaires should be completed and returned to the author as well as the associated risks and benefits involved. At this meeting, both groups were very supportive of the study and granted unconditional permission. It was agreed that the questionnaires and associate covering letter be handed over to the senior human resource officer to post to

all employees, and those employees whose first language was not English could contact the senior human resource officer to request a Zulu or Afrikaans version if this was required.

The attached covering letter introduced the researcher, explained the purpose of the research, the associated risks and benefits and contained the contact details of the researcher, if further information pertaining to the study was required by the employee. A self-addressed stamped return envelope was also included with the questionnaire and covering letter. It was agreed at the meeting that the questionnaire would be returned directly to the researcher to encourage open and honest responses. Written consent was obtained and the return of a completed questionnaire indicated that employees were willing to participate in this study and they had no further questions. After 4 weeks a reminder letter was posted to all employees by the senior human resource officer, thanking them if they had completed and returned the questionnaire and asking them to complete and return it if they had not. Finally, it was agreed that the name of the beverage manufacturing company would not be disclosed and the company would not be identified in any presentation or publication unless prior written approval was obtained from the company.

The data from the questionnaires were reduced to percentages and analysed descriptively using the Statistica 7 package. The level of significance was set at 0.05. The section on general working information and worker awareness of safety protocols were marked against the information in the health, safety and risk training manual. The recommendations were analysed as statements of opinion and grouped together if there were common emerging themes.

Results and Discussion

Of the 327 questionnaires that were distributed, 282 were returned. Nine questionnaires were incomplete and were consequently excluded. In total 273 questionnaires remained which were included in the analysis. The effective response rate was therefore 83.5%.

The mean age of the employees was 32.8 years (SD=8.22) and the range was 17-52 years. The participants included 195 males and 78 females. This denotes a ratio of 71:29 as compared to 70:30 of all working employees at the company. This indicated that the ratios in this study were representative of the employee population. Most employees first language was English (n=187, 68.5%). The remaining participants' first language was either Zulu (n=78, 26.6%) or Afrikaans (n=8, 2.9%). All returned questionnaires were in English and no employee requested the Zulu or Afrikaans version of the questionnaire. This was possibly due to the fact that the spoken language of the employees who retuned the questionnaire was English, while the other employees may have not been comfortable approaching human resources for a translated copy of the questionnaire. This could have been due to fear of institutional sanctions or penalty or loss to the company benefits that they are normally entitled to if they demonstrated poor safety knowledge and the social stigma of not being literate in written English. However, it must be emphasised that a covering letter accompanied the questionnaire and clearly stipulated that completed questionnaire must be returned to the researcher. The role of human resources in this study was to post the blank questionnaires and to routinely send a reminder to all employees. As the questionnaire was to be retuned to the researcher, human resources were not aware of those employees that returned the questionnaire and of those that did not.

In terms of education, 111 (40.7%) had secondary level schooling, 72 (26.4%) had technical trade schooling and 90 (32.9%) had tertiary level education. More than half of the employees (n=151) were from the workshop department while 122 were from the administrative support sector. This denotes a ratio of 55:45 as compared to 60:40 of all working employees at the company. A chi-square test indicated that there was no significant difference between the ratio of the workshop department and administrative support sector in the sample compared to the population (p=0.47). The cover letter asked employees to only answer questions that were relevant to their workplace and not to answer any questions that they were uncomfortable with. The mean number of working years at this company was 5.9 years (SD=4.36) and the range was 1-17 years. All employees (n=273) were employed full-time.

Since employees are often confronted with hazards at the workplace, it is important to understand their general working knowledge of occupational health and safety. This knowledge may assist with the development of safety training which could alleviate or reduce the impact of these hazards. One-hundred and seventy employees (62.3%) indicated that they received occupational health and safety training for their particular job. One-hundred and twenty employees (44%) reported that they were shift workers (i.e. working both normal and outside the scheduled work times). Of these, 102 employees (85%) indicated that the change of shift affected their productivity and/or safety, with most employees (n=22, 21.6%) stating that shift work affected their sleeping patterns, resulting in increase tiredness and fatigue in their next shift. This finding was similar to Maldonado et al[9] who reported that with improved global communication and commercial expansion, more employees are now required to work on rotational shift schedules which can affect sleep patterns contributing to increased inattention, reduced work performance and more errors and accidents.

Most of the employees (n=174, 63.7%) believed that the health and safety team at this specific company was fully committed to implementing a working environment that was safe, healthy and free from hazards. More than half of the employees (n=140, 51.3%) felt that the health and safety training was adequate in order for them to safely and productively perform their duties. However, because of poor record keeping at this beverage company it could not be established what safety training was done as well as the number of training sessions that employees underwent to feel adequately prepared in safety management. Globally millions of occupational injuries and illnesses are reported annually in the workplace due to the inconsistent recording of safety regulations training[10]. Several studies have shown that specialised health and safety training leads to employees retaining the knowledge and skill to recognise the risks associated with their work activity, which improves health and safety[11-13].

Although 209 (76.6%) of employees were aware of the safety requirements that visitors must adhere to before entering or while working on the premises, almost 40% (n=105) of employees were unsure of whether visitors to their department were issued with the correct safety devices and/or personal protective equipment (PPE) when necessary. The exposure to risks by visitors is much shorter than for employees due to the restriction in visiting hours. As a result, employees may not prioritise the distribution of PPE to visitors and determine whether or not they have been issued with the correct PPE[14]. This makes visitors more predisposed to accidents and the company more prone to litigation. A crucial part of a company's overall effort in reducing risk should be the acquisition and distribution of reliable, safe and effective personal protective equipment to both employees and visitors. The risk manager is responsible for the overall safety for all persons on the company premises and needs to ensure that visitors are issued with the correct safety devices/PPE, when necessary[15].

One hundred and forty employees (51.3%) were unable to correctly list any of the general health and safety rules applicable to this company. Sixty three employees (23.3%) correctly listed the four types of hazards within the working environment, namely, physical, biological, chemical and psychosocial. Fifty three employees (19.4%) were able to fully explain the dangers regarding the consumption of alcohol (over the legal limit) while on duty, while the remaining 220 (80.6%) had a poor understanding of the dangers associated with the consumption of alcohol (over the legal limit) while on duty. Although this is cause for concern in any company, it may be of particular concern in an alcoholic beverage manufacturing company. General employees in this beverage manufacturing company are able to access alcoholic beverages during their lunch breaks and senior management can have access during working hours when they are entertaining their business clients.

A study by Bell et al[16] showed that the prevalence of alcohol use and impairment in the workplace was sufficiently high to suggest that employers needed specific policies directed at alcohol

use and impairment at work and employees need to be aware of these policies. However, two later studies by Frome[17,18] proposed the need to have an understanding between the context of alcohol use (off the job vs. on the job) and the type of productivity outcome (attendance outcomes vs. performance and safety outcomes). If the consumption of alcohol beverages within legal limits on the job, provided by the company, does not affect employee productivity, then can we conclude that it encourages alcohol abuse? We may not understand the full impact of alcohol use on employee productivity and safety until researchers pay closer attention to the context of alcohol use. There is definitely a need for additional research to determine the relationship of alcohol use in the workplace and employee productivity at this company in order to draw rigorous conclusions as to whether having access to alcohol beverages at work causes any work performance impairment. This presents another opportunity for AHPs to carry out research.

It is noteworthy that more than two-thirds (n=207; 75.8%) of the employees indicated that they reported injuries on duty to their supervisors. But the ongoing nature of unsafe working practices was reinforced by the fact that 55% (n=150) of employees reported that the working environment sometimes prevented them from safely performing their tasks, for example a slippery floor and faulty machinery. Despite the fact that senior management has the legal responsibility to ensure an optimal working environment in order to promote safety and production, unsafe working environments are still universally reported in the literature[19-22].

Thirty-eight employees (13.9%) had an adequate understanding of the safety precautions to be taken if there was a fire or explosion, 81 (26.7%) had a mild to moderate understanding while 154 (56.4%) failed to describe any of the safety procedures during a fire or explosion. Employees are expected to have a detailed knowledge of fire risk assessments such as methods of reducing the source of ignition and the evacuation procedure. The most serious impact of fire in companies is the loss of lives. Additionally, the actual physical structure is damaged which could result in reduced output and/or decline in sales. The company may also incur new production costs rising from the fire damage, or may even have to temporarily relocate, purchase new equipment and supplies or it could close permanently. All of these effects may force a reduction in employment levels[23].

One hundred and ninety-seven employees (72.2%) knew that the first line of action for reporting injuries on duty was to report to the supervisor before the end of the shift. Failure to report a work injury to the supervisor before the end of a shift could result in disciplinary action for failure to follow reporting procedures. If injuries are not reported then no further investigation into the cause or probable cause of the incident would be investigated. This would mean that no corrective action and/or care plan interventions could be implemented to ensure that this incident does not occur again. Approximately half of workshop employees (n= 74, 49%) could describe the regulation for stacking and storing dangerous goods. In terms of safety regulations, 209 employees (76.6%) were aware of the safety obligations that visitors must follow before entering and while on the working premises. However, 123 employees (45.1%) understood the steps to be followed when unsure of how to correctly use safety devices and/or personal protective equipment.

Employees were asked to explain briefly any aspects of health and safety that should be addressed. One hundred and sixty-seven employees (61.2%) felt that onsite supervisors should play a more proactive role in ensuring that health and safety measures were implemented within the company. Sixty five employees (23.8%) felt that more health and safety workshops and in-service training should be provided. Seventy two employees (26.4%) recommended that senior management provide more occupational health care professionals and resources and introduce specialised safety courses to keep them current with health promotion and injury prevention strategies and legislation. It is suggested that there be an increase in consultation and employment of AHPs in order to meet the health and safety needs of employees but also to reduce the resource burden placed on existing team members. The literature suggests that the use of AHPs can positively impact on the health and safety of employees in a company[24,25]. This in turn could promote improved occupational health care services.

AHPs form an integral part of the healthcare system in South Africa and offer both curative and preventative services aimed at improving health and safety outcomes. They are skilled at developing strategic links and health synergies between themselves, companies and occupational health providers and their specialised level of training and practice allows them to meet the safety training needs of companies[26]. The contribution that they can make to companies includes developing or re-drafting occupational health and safety policies, implementing specialised training programmes that emphasise health promotion principles and injury prevention strategies, demonstrate kinetic handling techniques, provide tailored ergonomic advice and integrated and problem-solving solutions to encourage healthier and safer working practices[27].

A major limitation of this study was that a large number of respondents were from the administrative support sector and so the proposed safety training was likely to be biased towards non-manual employees. The fact that employees had to contact human resources to request a translated version of the questionnaire could have contributed to a lower return rate. It is recommended that further studies that focus on the surveillance of the work environment to ensure that safety regulations are put into practice and on examining whether current work processes are effective in reducing the risks at this company.

Conclusion

This study has revealed that employees have a poor knowledge of safety procedures in certain aspects of health and safety practice at this specific beverage manufacturing company. These aspects include the fact that more than half of the employees were unable to correctly list any of the general health and safety rules applicable to this company, the procedure during a fire or explosion, the dangers associated with the consumption of alcohol (over the legal limit) while on duty and the procedure for issuing visitors with the correct protective equipment and/or safety devices. Employees felt that more health and safety workshops and in-service training should be provided, that senior management should employ more occupational health care professionals and resources and introduce specialised safety courses to keep them current with safety practices.

The knowledge of the health and safety regulations of employees can be used to inform a more specialised training programme. This specialised training can be provided by AHPs in collaboration with the company's existing medical department, to deliver and encourage a more dynamic and proactive attitude towards preventing injuries at this company. This multidisciplinary training would also address the multivariate factors of injury, using the biopsychosocial model of care. The efforts of addressing workplace injury should not only be in the area of developing health and safety educational programmes but also implementing and evaluating the effectiveness of such programmes.

There is an opportunity for AHPs to contribute to occupational health training programmes given the multi-dimensional health synergies that they promote thereby enhancing their visibility in the specialist field of occupational health. Further studies are required of different types of companies to validate the questionnaire used in this study so that it can be incorporated into routine practice measures of the health and safety knowledge of employees. It is strongly recommended that the collection of this data is standardised to allow for comparison between different companies.

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APPENDIX I: HEALTH AND SAFETY QUESTIONNAIRE

INSTRUCTIONS:

Please answer all questions by placing a cross (X) in the appropriate block(s) or by referring to the specific instructions that have been indicated.

You are only required to answer questions that are relevant to you in the workplace.

1. DEMOGRAPHIC DETAILS

1.1 Name (optional) _____

1.2 Gender:

1.2.1 Male	
1.2.2 Female	

1.3 Age:

1.4 Please indicate your first language:

1.4.1 English	
1.4.2 Afrikaans	
1.4.3 Zulu	
1.4.4 Other (please specify)	

1.5 Highest Educational Level:

1.5.1 No formal schooling	
1.5.2 Primary Level (Grade 0-6)	
1.5.3 Secondary Level (Grade 7-12)	
1.5.4 Technical Trade School	
1.5.5 Tertiary Level	

.... continued on page 23

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1.6.1 Department:

1.6.1.1 Administration	
1.6.1.2 Plant Box	
1.6.1.3 Workshop	
1.6.1.4 Health Services	
1.6.1.5 Waste	
1.6.1.6 Risk Control	
1.6.1.7 Stores	
1.6.1.8 Other (please specify)	

1.6.2 Briefly explain your job description: _____

_____

1.7 Number of years employed at this industry: _____

1.8 Nature of employment:

1.8.1 Full-time worker	
1.8.2 Part-time worker	
1.8.3 Occasional worker	
1.8.4 Contractual worker	
1.8.5 Other (please specify)	

2. GENERAL WORKING INFORMATION

2.1 Have you received any work-related health and safety training for your particular job? If yes, briefly explain: _____

_____

2.2.1 Do you work in shifts? _____

2.2.2 If yes, please indicate how many shifts you work per week: _____

2.2.3 Please indicate the length (in hours) of each shift: _____

2.2.4 Does the change of shift affect your productivity and/or safety? If yes, please elaborate: _____

_____

2.3 Please complete the following table by placing a cross (X) in the most appropriate block:

	YES	NO	UNSURE
2.3.1 Do you believe that the health and safety team at this specific industry is fully committed to implementing a working environment that is safe, healthy and free from hazards?			
2.3.2 Do you feel that you are adequately trained to do your job safely and productively?			
2.3.3 Do you report all injuries on duty (IOD's) to your supervisors?			
2.3.4 Does your working environment sometimes prevent you from safely performing your tasks (e.g. slippery floors, faulty machinery)?			
2.3.5 Are visitors to your department issued with the correct safety devices and personal protective equipment (when necessary)?			

3. EMPLOYEE AWARENESS OF SAFETY PROTOCOL

INSTRUCTIONS:
Please indicate if you are aware of the following health and safety procedures and protocols by answering the questions below.

3.1 General Safety

3.1.1 List four general health and safety rules applicable to this company _____

_____

3.1.2 List the four types of hazards that you can come across in the working environment _____

_____

3.1.3 Explain the dangers regarding the consumption of alcohol while on duty _____

_____

3.2 Specific Safety Procedures and Protocols

3.2.1 Describe what you would do when there is a fire or an explosion _____

_____ .... continued on page 24

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3.2.2 Explain the procedure for reporting injuries on duty _____

3.2.3 Describe the regulations for stacking and storing dangerous goods _____

3.2.4 What health and safety obligations must visitors follow before entering and while on the working premises? _____

3.2.5 What steps would you take if you are unsure on how to correctly use safety devices and/or personal protective equipment? _____

4. EMPLOYEE RECOMMENDATIONS

INSTRUCTIONS:
Please answer all questions in this section.

4.1.1 Are there any aspects of work-related health and safety that you feel should be addressed? _____

4.1.2 Briefly explain: _____

4.2.1 Do you have any recommendations regarding the improvement of health and safety within your company? _____

4.2.2 Briefly explain: _____

Thank you for your co-operation

❑

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Development of a Scissors Skills Programme for Grade 0 Children in South Africa – A Pilot Study

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ABSTRACT

The need for a scissors skills programme was identified due to the varying levels of these skills found in Grade 0 children in South Africa. Essential elements for the development of the programme were identified using activity analysis and by evaluating five commercially available programmes in terms of programme length, grading of practice and picture components, type and thickness of lines and the use of a skills checklist. A South African Scissors Skills Programme (SASSP) was compiled based on the skill level of Grade 0 children. Content validity was assessed through expert opinion of the programme and construct validity was assessed in a pilot study carried out on 10 Grade 0 children. Changes made to increase the validity of the programme included picture selection as well as the grading and type of lines used. The teacher instructions for presenting the programme were altered to be easily understandable. The programme was finalised for implementation in further research.

Key words: Bilateral fine motor skills, Scissors skills programme, Graded programme, Grade 0 children

Introduction

South Africa is a country of diversity with different cultures and languages, socio-economic levels, educational levels and health issues. Children are affected by their birth history and environment. This includes parenting, health, as well as care leading up to the pre-school years. Children's development, and hence school readiness, is dependent on the interaction of genetics, maturation, and engagement with their environment[1]. The Grade 0 year is an