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THE EFFECTIVENESS OF HEALTH AND SAFETY (H&S) TRAINING AND ITS IMPACT ON CONSTRUCTION WORKERS' ATTITUDES, AND PERCEPTIONS

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Introduction (1)

- **The construction industry in South Africa experiences high injury and fatality rates (cidb, 2009)**
- **In terms of research, seems to be a lack of correlation between the impact of effective H&S training and its influence on worker H&S attitudes and H&S behaviours**
- **H&S training goals and objectives should be designed to influence construction workers' understanding of the specific hazards in their work environment; including the accident and injury risks posed by exposure to these hazards**
- **Benefits can be attributed to the effective delivery of H&S training:**
 - **Enhanced H&S knowledge and H&S motivation among construction workers**

Introduction (2)

- Increased H&S knowledge and H&S motivation in turn, result in workers being empowered in terms of taking ownership of their own individual H&S
- Empowerment of workers can result in a further decrease in accident and injury rates on a construction site
- **Given the aforementioned, the Honours level study interrogated, *inter alia*, the:**
 - Extent to which factors contribute to the causes of accidents on projects
 - Extent to which factors contribute to the successful delivery of an H&S training programme

Review of the literature

- **H&S culture and climate**
- **Hazard identification and risk assessment**
- **H&S training**
- **H&S leadership, education, and training**
- **H&S meetings**
- **Manager H&S inspections**
- **H&S signs and symbols**

Research – Method and sample stratum

- **The targeted population included Grade 4-9 GCs registered with the cidb and based in the Eastern Cape and Gauteng provinces**
- **The questionnaire consisted of eleven questions: one demographic; three open-ended, and seven 5-point Likert scale type**
- **25 GCs were contacted, and 11 (sets of) questionnaires were returned, resulting in a response rate of 44%:**
 - **3 responses were required from each GC - from a site agent, H&S officer, and supervisor**
- **A total of 33 responses were received within the allocated time, and included in the analysis of the data**
- **A measure of central tendency in the form of a mean score (MS) was computed to enable ranking of factors, and comparisons**

Research – Demographics

- The composition of the sample consisted of 12 (36.4%) females and 21 (63.6%) males
- The response rates:
 - H&S officers (14 / 25) = 56%
 - Supervisors (10 / 25) = 40%
 - Site agents (9 / 25) = 36%
- 9 (27.3 %) were holders of a bachelor's degree, 6 (18.2 %) had an honours degree, 10 (30.3%) were diplomates, 7 (21.2%) had a postgraduate diploma, and 1 (3.0%) had a masters degree

Research – Findings (1)

Factor	Response (%)						MS	Rank
	U	MinorMajor						
		1	2	3	4	5		
Lack of hazard identification and awareness on site	0.0	5.7	2.9	5.7	31.4	54.3	4.26	1
Poor H&S culture and H&S climate	0.0	2.9	2.9	11.4	34.3	48.6	4.23	2
Lack of supervision	0.0	2.9	2.9	14.3	37.1	42.9	4.14	3=
Inadequate management commitment	0.0	2.9	8.6	17.1	14.3	57.1	4.14	3=
Inadequate H&S training	0.0	2.9	8.6	11.4	34.3	42.9	4.06	5
Inadequate management participation	0.0	5.7	8.6	14.3	20.0	51.4	4.03	6
Lack of analytical skills	0.0	2.9	8.6	28.6	25.7	34.3	3.80	7
Low knowledge retention	0.0	5.7	8.6	25.7	28.6	31.4	3.71	8
Safe working procedures	2.9	2.9	8.6	31.4	17.1	37.1	3.69	9
Inadequate toolbox talks	0.0	5.7	8.6	34.3	31.4	20.0	3.51	10
Lack of feedback platforms (H&S suggestion box)	0.0	11.4	17.1	11.4	31.4	28.6	3.49	11=
Inadequate H&S induction	0.0	8.6	11.4	28.6	25.7	25.7	3.49	11=
Frequency of the H&S training	0.0	8.6	8.6	28.6	42.9	11.4	3.40	13
Duration of training	0.0	17.1	20.0	34.3	25.7	2.9	2.77	14

Table 1: Extent to which factors contribute to the causes of accidents on projects (MS = 1.00 – 5.00).

Research – Findings (2)

Factor	Response (%)						MS	Rank
	U	MinorMajor						
		1	2	3	4	5		
Employee participation	0.0	0.0	5.7	2.9	42.9	48.6	4.34	1=
Job specific knowledge shared in the H&S training programme	0.0	0.0	2.9	8.6	40.0	48.6	4.34	1=
Skills and abilities gained	0.0	0.0	0.0	11.4	42.9	45.7	4.34	1=
Competency of H&S trainers	0.0	2.9	0.0	8.6	37.1	51.4	4.34	1=
Relevance of H&S training to worker tasks	0.0	2.9	2.9	8.6	37.1	48.6	4.26	5
Involving workers in the development of the H&S programme	0.0	2.9	2.9	11.4	45.7	37.1	4.11	6
Additional materials used in training (videos, handouts)	0.0	8.6	5.7	17.1	22.9	45.7	3.91	7
Inadequate supervision	2.9	5.7	5.7	17.1	34.3	34.3	3.77	8
Size of group being trained	2.9	5.7	11.4	25.7	28.6	25.7	3.49	9
Duration spent on H&S training	2.9	8.6	8.6	34.3	14.3	31.4	3.43	10
Rest break during H&S training	0.0	14.3	20.0	25.7	20.0	20.0	3.11	11

Table 2: Extent to which factors contribute to the successful delivery of an H&S training programme (MS = 1.00 – 5.00).

Conclusions (1)

- **It is essential for workers to receive relevant, appropriate, and adequate H&S training to gain the relevant knowledge and skills related to undertake a task**
- **H&S training should further transmit knowledge and skills to identify hazards, change attitudes, and engender healthy and safe work behaviour**
- **H&S training should be effective in such a way that it involves changing perceptions, attitudes, behaviours, and consequently the way workers conduct themselves at work**
- **Adequate and relevant H&S training, including H&S induction, empowers workers to effectively deal with site hazards**

Conclusions (2)

- **Involvement and participation in H&S will indicate to workers that they are included, and a part of the process:**
 - **Which in turn will motivate and encourage them to change their attitude and behaviour**
- **H&S culture and climate have a major influence on the H&S attitudes of workers:**
 - **Organisations should invest in building a positive H&S culture and climate**
 - **Management involvement in H&S and the presence of first line supervision are fundamental interventions**
 - **Top management commitment is crucial in terms of achieving H&S standards for any organisation - top management is usually the initiator and 'driver' of any organisation's interventions**

Recommendations

- Hazards need to be addressed from the design stage
- The identification of residual hazards will enable the construction team to propose and implement measures to empower workers to deal with such hazards when encountered
- Organisations should offer H&S training programmes that are relevant to workers
- H&S training should transfer the relevant H&S knowledge and skills to workers, which will enable them to effectively deal with H&S hazards
- Organisations should invest significantly towards building a positive H&S culture and climate
- Promote worker participation in H&S

References

- **Construction Industry Development Board (cidb). 2009. *Construction Health & Safety Status & Recommendations*. Pretoria: cidb.**