

ASSESSING THE EFFECTIVENESS OF TRAINING

Many organisations invest a significant amount of time, money and effort into developing and presenting environmental training material to employees. However, many do not assess how effective the information or skills have been understood by those receiving the training.

Over the past two years, the Training section of the AIG Environmental Management Implementation Handbook has reviewed methods to develop and implement training packages. In this issue, we will look at the next stage of the training process, the assessment of competencies.

Classically, environmental training is presented to employees in various forums, such as classroom or toolbox sessions, and personnel are then sent on their way with the assumption that they have been made aware of their duties and the company has fulfilled its legal obligations. Unfortunately, this is often not the case on either score.

Anecdotal evidence suggests that personnel receiving training often only hear, understand and remember part of the message and often only those parts they believe are relevant to them. The purpose of a competency assessment is to:

- identify if the trainee has understood all the information that they need to know; and
- is competent to perform the tasks they have been delegated.

A number of methods can be utilised to achieve this aim, each method suited to different situations and groups. The table below provides a brief summary of these methods and the suitability of each.

Assessment Method	Knowledge or Competency Being Assessed	Applicable Groups
Post training questionnaire eg. multiple choice short answer	General knowledge and awareness	All
Verbal Examination	General knowledge and awareness	All (particularly operational personnel)

Assessment Method	Knowledge or Competency Being Assessed	Applicable Groups
Classroom exercises eg. analyse or assess case studies prepare or assess procedures complete documentation prepare brief reports	Ability to: <ul style="list-style-type: none"> - carry out assessments such as risk assessments - identify necessary procedures - identify deficiencies with work practices - complete forms such as incident reports - carry out incident investigations 	Supervisors and managers
Post training assignments submitted for review eg. <ul style="list-style-type: none"> - workplace reviews & assessments - development of procedures & documentation 	Ability to: <ul style="list-style-type: none"> - audit operations - carry out a risk assessment - review complex documentation and identify deficiencies - prepare suitable procedures and documentation for more complex processes 	Supervisor level with specific tasks, managers and environmental personnel
Examinations eg. multiple choice short answer long answer case studies	Assess: <ul style="list-style-type: none"> - knowledge of complex issues - ability to analyse case studies and carry out desk-top studies - ability to analyse procedures 	Supervisor level with specific tasks, managers and environmental personnel
On-the job assessment	Assess: <ul style="list-style-type: none"> - operational skills - ability to implement procedures 	Operational personnel and internal auditors

Once the appropriate assessment method has been determined, the assessment criteria need to be established. For those readers that have followed the previous years articles, you will be aware that the training should be based on the competencies and performance criteria that the attendees need to attain in order to perform their assigned duties. Therefore, any assessment should determine whether the trainees have achieved the criteria on which the course was based. As an example, we will look at the competency reviewed in the first article (2002). The competency used at that time was environmental awareness for operational personnel.

Unit of Competency (job, task, knowledge area) : General Environmental Awareness (operators)

Elements (individual steps in the task)	Performance Criteria (skills & knowledge to perform each step)
Company Environmental Policy	<ul style="list-style-type: none"> - Know the major points in the Policy (legal compliance, continual improvement, minimise pollution and impact) - Know where the Policy is located in the workplace - Know the use made of the Policy is setting the company's environmental agenda
Basics of the company EMS	<ul style="list-style-type: none"> - Know and can explain the major steps used in the EMS (Planning, Implementation, Checking & Correcting) - Know who maintains the EMS - Know their role in the EMS - Can access EMS documents relevant to their duties
Environmental risks (or aspects)	<ul style="list-style-type: none"> - Know the major risks faced by the company - Know the risks specific to their own workplace - Know about the effect of pollutants emitted from the company on the environment, particularly in an emergency or following an accident
Common Operating and Emergency Procedures	<ul style="list-style-type: none"> - Know and can implement basic spill response procedure - Aware of safety requirements relevant to chemicals used in their work area, particularly in an emergency and can use personal protective equipment - Know and can implement operating procedures specific to the risks in their work area - Aware of waste segregation and recycling procedures
Basic Environmental Legislation	<ul style="list-style-type: none"> - Know about the EPA, their role and powers - Know about the company licence, the general licence requirements and requirements specific to their operations - know about company and personal responsibilities under the legislation - Know about company fines - Know about personal fines and jail terms - Know who to talk to for further information

As can be seen in the table, the second column sets out the criteria the trainee must achieve. Therefore, any assessment must determine if the criteria have been achieved.

In the above example, the target audience is consists of operational personnel, therefore a post course questionnaire would be appropriate. An example assessment for the awareness course described above may include the following questions:

1. What are the major points in the Environmental Policy?
 2. Where is the Environmental Policy located in the workplace?
 3. How is the Environmental Policy used to set the company's environmental agenda?
 4. How does our EMS reduce our environmental risks?
 5. Who maintains the EMS in our company?
 6. What are your environmental responsibilities?
 7. Where can you get environmental procedures?
- etc. (until each performance criteria has been assessed)

Similar assessment criteria can be developed, irrespective of the assessment methodology and the original competencies and performance criteria used to develop the course also used for the assessment.

Where deficiencies are identified, the relevant information or work practice should be reviewed with the trainee, who should then be reassessed.

Conclusion

Without assessment of the training provided, it is not possible to confirm an employee has understood and retained the information and it does not prove the company has fulfilled its training requirements. The development of a comprehensive assessment process, based on the original competencies used to develop the course, should be utilised to confirm the training has achieved the primary aim of informing the individuals receiving the training. It should be noted that confirming the trainees are "competent" at the time of the assessment does not ensure they will be competent forever. Maintenance of competencies is another topic which is worthy of its own future review.

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