

Pick Work  
**PPICW**



# Hazard Assessment and Mitigation in the Workplace



**MEDA**  **EACID** 

Partners in Technology Exchange

 Canadian International  
Development Agency

# Hazard Assessment and Mitigation in the Workplace:

## Section 2: Participant's Manual

### Table of Contents

- Background to the PPIC-Work Project
- Activity worksheets
- PowerPoint slides of Trainer presentations

## PPIC-Work Capacity Building Series

The PPIC-work Project has developed training manuals and program guides for each of its main interventions. The interventions are organized around three themes: working conditions, learning opportunities and key processes that support children's involvement in programming.

The specific interventions and accompanying training materials are:

### Improving Working Conditions

- Dual Purpose Loans Manual
- Creating a Code of Conduct

#### This guide →

- Hazard Assessment and Mitigation in the Workplace Manual

### Improving Learning Opportunities

- Education Support Program Guide
- Learning Through Work Guide
- Ba'alaty Guide (Computer Based Learning)

### Key Processes

- Children's Rights Manual
- Gender Equality Manual
- Programming with Children Manual

# Promoting and Protecting the Interests of Children who Work “PPIC-Work”

PPIC-Work improves the working conditions and learning opportunities of working children who are engaged in the growing micro and small enterprise sector in Egypt. Utilizing a gender-sensitive, rights-based approach PPIC-Work is able to serve the interests of large numbers of working children by working with and through self-financing microfinance institutions.

PPIC-Work was funded by the Canadian International Development Agency from 2002 to 2009 and implemented through locally owned MFIs working in collaboration with Canadian development agencies. Interventions that were first developed in Aswan have been adapted and adopted for use in other parts of Egypt by PPIC-Work partner MFIs. These institutions work through the lending process to upgrade production processes and business performance while improving the lives of working girls and boys.

PPIC-Work partners recognized that children worked in many of their client businesses for a variety of reasons but the principal motivations were poverty and failures within the formal educational system. By developing interventions that support working children MFIs have been able to improve the social impact of their programs while continuing to meet conventional microfinance best practice standards.

Working children along with their families and business owners have collaborated with PPIC-Work partner agencies to develop a series of intervention tools that can be integrated into microfinance programs. These interventions are organized around three main themes: working conditions, learning opportunities and key processes that support children’s involvement in the project. The specific interventions are:

## Working Conditions

- Dual Purpose Loans
- Workplace safety assessments and hazard mitigations
- Code of Conduct

## Learning Opportunities

- Education Support
- Learning Through Work
- Computer Based Learning (particularly Ba’alty, an interactive computer simulation)

## Key Processes

- Child participation
- Gender Equality
- Child Rights

Training manuals and program development guides have been prepared for each intervention to allow other organizations to adopt and adapt the PPIC-Work experience.

## Acknowledgements

The PPIC-Work team would like to thank the following people for their assistance in developing this training manual:

- Curtis Breslin, Institute for Work and Health, Toronto, Canada
- Amr Taha, Consultant on Occupational Health and Safety (former director of ILO IPEC Egypt), Cairo, Egypt
- Nadia Zibani, Population Council, Cairo, Egypt
- Kiran Kapoor, Industrial Accident Prevention Association (IAPA), Canada
- Management and staff at our partner agencies: EACID in Aswan and Kom Ombo, Zenab Kamel Hassan Foundation in Cairo and ARUWD in Qena.

This manual was developed with financial support from the Canadian International Development Agency (CIDA).



Canadian International  
Development Agency

Agence canadienne de  
développement international

## Glossary of Terms

ARUWD	Association of Rural and Urban Women's Development
BO	Business Owner
CEOSS	Coptic Evangelical Organization for Social Services
CIDA	Canadian International Development Agency
EACID	Egyptian Association for Community Initiatives and Development
MFI	Microfinance Institution
NGO	Non-Governmental Organization
PPIC-Work Project	Promoting and Protecting the Interests of Children who Work
ZKHF	Zenab Kamel Hassan Foundation

## Young People and Work: Context

The ILO estimates that 317 million children under 18 are economically active, constituting approximately 20.3% of the age cohort.<sup>1</sup> Many of these children work in the informal sector, in microenterprises receiving loans from MFIs, and the skills they develop in their workplaces represent an important part of the country's workforce development.

Mennonite Economic Development Associates (MEDA) and Partners in Technology Exchange (PTE) began the PPIC-Work project (Promoting and Protecting the Interests of Children who Work) in 2002 to improve the working conditions and learning opportunities for working children in Egypt. The PPIC-Work project has developed a set of tools for assessing workplace conditions for economically active youth, focusing on two key areas: mitigating potential hazards and improving formal and nonformal learning opportunities. Loan officers from partner MFIs are trained to use these tools in conducting workplace assessments.

### **Workplace Safety:**

Workplace safety is a key issue in youth employment around the world. Non-safety experts are often called on to assess workplaces: in North America, teachers select environments for student placements or internships; in developing countries, safety inspectors may be seen as corrupt, requiring others to fulfill this role.

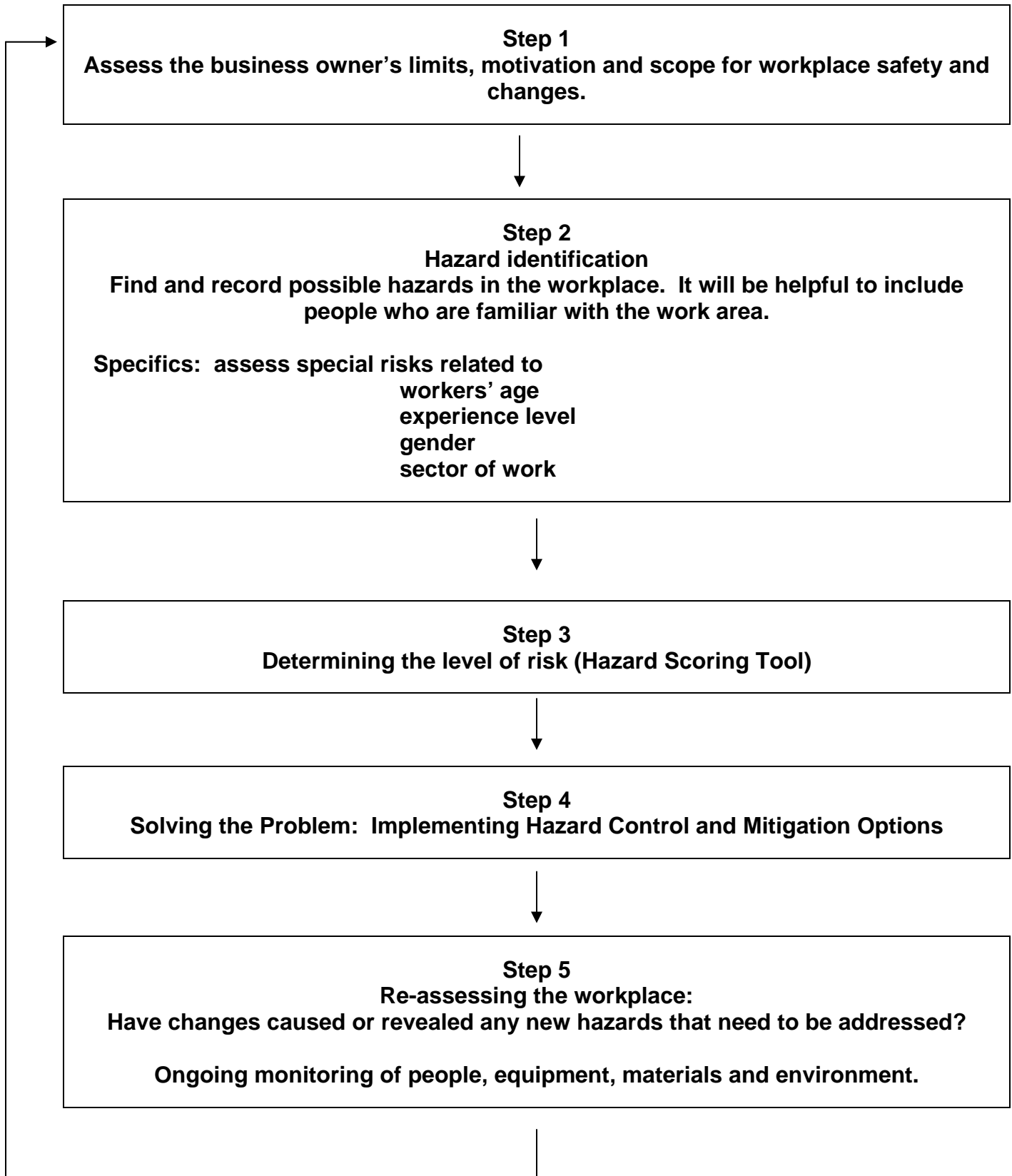
In Egypt, the PPIC-Work project has trained loan officers working in partner microfinance institutions (MFI) to conduct safety assessments; using existing staff to mitigate hazards makes the monitoring a regular part of their loan visits and ensures the sustainability of the intervention beyond the life of the project. In addition, the loan officer creates a connection between hazard reduction and potential financing from the MFI gives business owners a strong incentive to invest in workplace safety.

---

<sup>1</sup> ILO, "The End of Child Labour: Within Reach." Geneva, 2006.

TRAINER – insert updated schedule

## Overview of the Risk Assessment Process



## Tool I: Categories of Hazards

The 7 categories of hazards or potential hazards in workplaces are:

- **Accident hazards**  
(e.g., wet or uneven surfaces, accidents with cutting or power tools, motor vehicles or machines)
- **Chemical hazards**  
(e.g., exposure to crop dust, fibres, exhaust, mineral dust or toxic chemical agents)
- **Physical hazards**  
(e.g., noise, vibration, heat and cold, electricity, poor ventilation)
- **Ergonomic hazards**  
(e.g., lifting carrying or moving heavy objects, repetitive motions, awkward postures, poorly designed or sharpened tools)
- **Working conditions**  
(e.g., long hours, lack of security, poor sanitation and housing)
- **Biological hazards**  
(e.g., contact with biological wastes, animals or plants)
- **Psychological hazards**  
(e.g., abuse, humiliation, isolation, lack of learning opportunities, stress)

## Sample Table for Workplace Assessment

Type of Hazards	Examples in the Workplace	Possible Mitigation
Accident		
Chemical		
Physical		
Ergonomic		
Working Conditions		
Biological		
Psychological		

## Training Activity: Gender-differentiated Hazards

What are some typical jobs (sectors or tasks) which are usually done by boys or girls?	
<b>BOYS</b>	<b>GIRLS</b>

Some potential hazards exist in a range of jobs and will be experienced by both boys and girls.

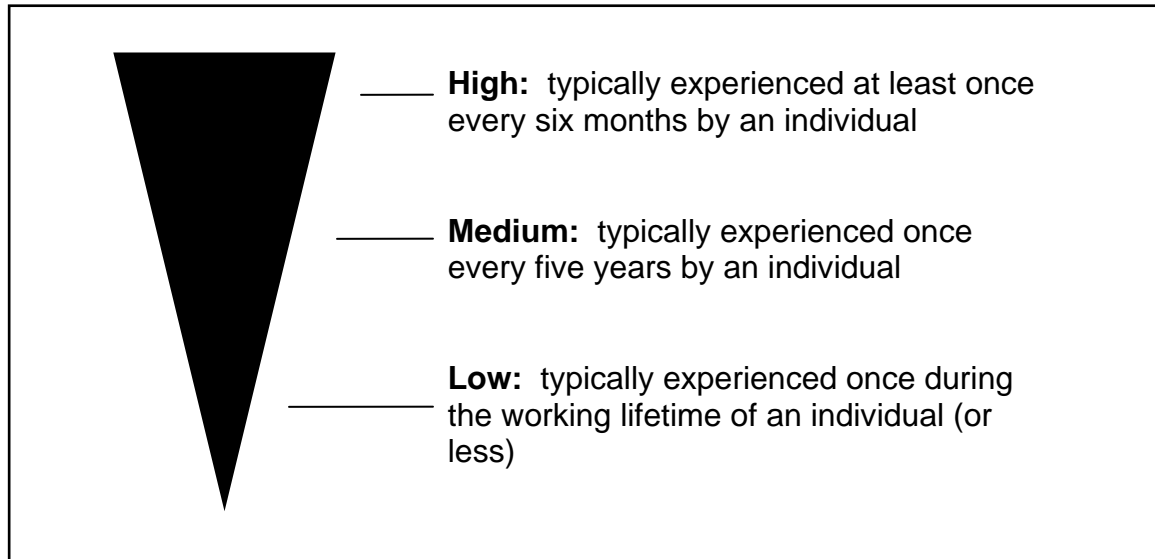
Brainstorm some hazards that may be experienced by both boys and girls:

Brainstorm hazards which are more likely to be experienced by:	
<b>BOYS</b>	<b>GIRLS</b>

## Hazard Scoring Table

<b>Severity</b> <i>Probability</i>	<b>Serious</b>	<b>Moderate</b>	<b>Minor</b>
<b>High</b>			
<b>Medium</b>			
<b>Low</b>			

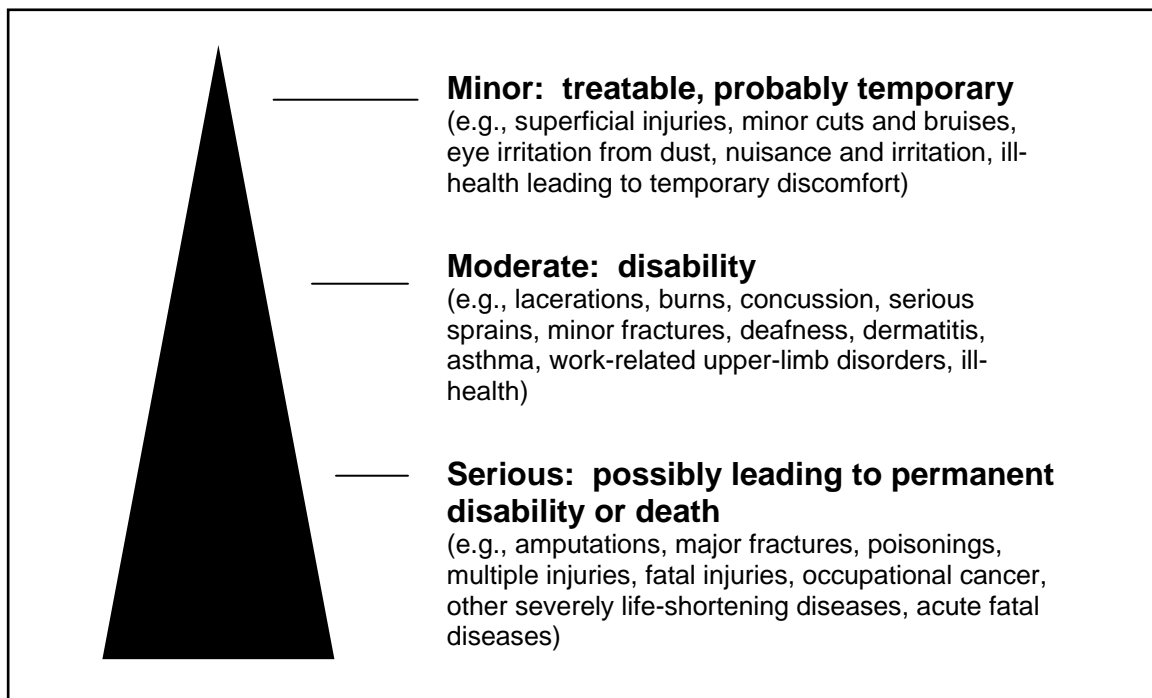
## Definitions for Frequency of Harm



## Definitions for Severity of Harm

When establishing potential severity of harm, information about the relevant work activity should be considered, together with:

- The part(s) of the body likely to be affected
- The nature of the harm, ranging from slight to extremely harmful



In small businesses the risks associated with accidents that are unlikely or very unlikely may not be recognized or acknowledged by child workers, adult workers and even BOs. These accidents almost never occur on the level of individual workshops; they may occur once in a district or once in a community over a given period of time. However, while these accidents may be infrequent, they may also be extremely harmful, resulting in serious injury or even death. See story of the Laundry, inset.

### **Rare but Serious Hazards: the Laundry**

Traditional laundry businesses hold many potential hazards for both adult and child employees. Workers can be exposed to chemicals, dangerous machines and hazardous wiring.

One of EACID's clients in Aswan was a laundry in which a boy was killed while operating a machine. The faulty wiring resulted in electrocution.

This accident happened before the business became involved with the PPIC-Work project. Now, the laundry receives loans which allowed the owner to expand his business, but also to improve working conditions. The first loan was used to address the most serious problem, which was the electrical wiring. The second and third loans were used to buy equipment – equipment that was more efficient, but also safer.

The laundry is now safe and modern with new equipment and an expanded clientele. The business is now able to respond to tourism related industry, which has been very profitable.

Though the accident had tragic results, it was a major factor in motivating the business owner to seek financial assistance for upgrading the equipment in the laundry. He has begun to accept that many accidents are preventable and that safety is an important part in building a business to be successful in the long-term. He now acts as a spokesperson for advocating safety in the workplace, training peers in his community.

The challenge for loan officers is to take the rare experience to the broader community of businesses. The potential for harm is there, but the experience of this harm is not.

## Engineering Out the Hazard: The Restaurant

**Before:** A busy, crowded restaurant holds many potential hazards, particularly for younger workers. One of EACID's clients runs a successful restaurant with the help of a 13 year old boy.

He works as a waiter, bringing food from the kitchen to the customers. The kitchen has open flames, sharp knives and cooking fuel, among other hazards (see example picture to right). He carried plates through a crowded room.



BEFORE

**After:** After receiving a loan from EACID, the restaurant owner expanded his business into the neighbouring building. The kitchen is now enclosed and the boy picks up food from a window, rather than going into the kitchen (see picture to right). He never goes near the knives or flames. The problem has been engineered out.



AFTER

## Documentation and Monitoring

### Successful Data Collection: Considerations and Tips

By its nature this type of hazard assessment and risk mitigation is an exercise in data collection and monitoring.

Data is typically collected through a process of observation of workplace conditions, interviews with young people working in these environments, or a combination of both.

To be successful we must develop our abilities in these methods of data collection.

#### Observation As A Data Collection Tool

Observation – the actual viewing or witnessing of the workplace hazards – is one of two methods we have at our disposal when conducting our data collection.

When collecting data this way, we are using our powers of observation to view the workplace conditions, and to assess them against the guidelines set out in the Code of Conduct.

When using observation as an assessment, you will either be conducting:

- a real time assessment, i.e. Spending time with young people to view their working lives
- or, if you have worked with them in the past, drawing on your experiences to conduct the assessment.

Initially, observation seems like a reliable and very valid way to assess workplace conditions. After all, what is more reliable than what we actually see? But, as we saw with the two examples in the slides, observations can be subject to any number of interpretations and differences.

When using observation as an evaluative technique, it is important to meet the two criteria of validity and reliability.

Let's explore what that means.

**Reliability** refers to how dependably or consistently an observation measures a characteristic. If a person is observed consistently in the same situation, will he or she perform or act in a similar manner or show a variety of responses? An observation that yields similar results for a person who repeats the task is said to measure a characteristic reliably.

How do we account for an individual who does not get exactly the same result every time he or she is observed? Some possible reasons are the following:

- **Assessor's temporary psychological or physical state.** Observational performance can be influenced by a person's psychological or physical state at the time of the observation. For example, differing levels of anxiety, fatigue, or motivation may affect the assessor's ability to remain focused.

- **Environmental factors.** Differences in the environment, such as temperature, lighting, noise, or distraction from other people can influence an individual's observational performance.
- **Multiple assessors:** In some case, more than one assessor is responsible for providing observational assessment. Differences in training, experience, and frame of reference among assessors can produce different results.

These factors are sources of chance or random measurement error in the assessment process. If there were no such random errors, the individual would get the same assessment, or "true" score, each time. The degree to which observations are unaffected by such external errors is an indication of the **reliability of the test**. Reliable assessment produces dependable, repeatable, and consistent information about people. In order to make reliable observations, you need reliable tools. This brings us to the next principle of observation assessment.

The **validity** of an observational assessment depends on the purpose of the analysis. In theory, an observation can be regarded as valid to the extent that it gives an accurate and complete demonstration of the task being completed. In reality, researchers have found it difficult to demonstrate the completeness or accuracy of observational techniques in assessment. From a practical standpoint, assessors must be aware of the limitations of observation, and seek to address them.

There are three factors that pose challenges for evaluators.

1. Time Determined Changes
2. Client Determined Changes
3. and Situation Determined Changes

**Time determined changes** involves task-related duties or tasks that are performed only occasionally or at widely spaced times. An invalid observational assessment may be descriptive of a characteristic at one specific time, but not another. To be complete and representative, an observational assessment should lead to an accurate portrayal of working conditions across many points in time. This can be accomplished by sampling behaviour across time.

For example, when monitoring safety conditions with working children, it would be important to observe them at different times of day and in different seasons for work that changes over the year. Additionally, children may perform different tasks or work varying hours depending on the season and / or the school year. Monitoring safety conditions would require observing at different points in the year, as appropriate to the work situation.

**Client determined changes** is the next challenge. A task may be difficult to assess because different people in it may perform in different ways, depending on their individual interests, skills and experience.

The third factor to consider is **situation-determined**, meaning that workplace conduct may change as a result of physical or human forces operating in the work environment. These changes can be caused by emergencies, road or traffic conditions, noise levels, customers, and any other external factor.

## Overcoming The Challenges

The challenge for assessors in using observation is to be aware of its limitations.

Observation, conducted well and with enough attention to time and effort, can provide an accurate and complete perspective. Conducted poorly, it provides an inaccurate and incomplete picture, and does not allow for a successful assessment.

So, how do we overcome these challenges?

An awareness of the limitations of observation as an assessment method is critical to your effectiveness as an assessor. If we depend on observation solely, and do not allow for an adequate sampling, then our assessment will be compromised.

If we intend to use observation as a tool to assessment a young person's abilities related to safe handling, for instance, we need to allocate enough time. If we have not had an opportunity through past experience to witness the young person at work on this specific task, then we need to allocate ourselves enough 'ride along' time to allow us to observe the young person.

A good way to think about it is to use the acronym **AAD – Appropriate, Adequate** and **Documented**

- Use **Appropriate** samples of performance. Ensure that whatever form of observation we are relying on – recent witnessed performance or actually scheduling a session to spend with the young person – that we are seeing an appropriate number of examples of the person at work.
- Ensure the sample you are using is **Adequate** and provides enough content to do a reasoned assessment.
- **Document** the assessment. Make sure that whatever the form we have decided to use, we fill it in, accurately and completely.

In the next, and last, part of this section we will examine some common tools we can use in our own observational assessment.

## A Systematic Approach To Observation: Some Suggested Tools

Planning and implementing a systematic approach to evaluative observation reduces bias and unreliability. Many assessors will use a pre-formatted form to assist them in their observation: such forms and checklists help standardize observations, and can make the observation more reliable. The choice to use such an assessment tool is yours to make.

Observational approaches include:

**1. Checklists** that indicate the presence or absence of a characteristic and are most appropriate for answering yes/no items or for documenting a large number of behaviours in a short period of time.

*Example: There is sufficient lighting in the workplace for the tasks to be completed. \_\_\_ Yes \_\_\_ No*

**2. Scaled Ratings** that indicate the degree to which a characteristic or behaviour is present or true.

*Example: The worker / apprentice's use of safe handling processes was:*

*1-very poor 2-weak 3-average 4-good 5-excellent*

**3. Interval Observations** that record the frequency of a behaviour or characteristic at regular, timed intervals (e.g., every five minutes). Behaviours are documented using a checklist or a scaled rating.

**4. Narrative comments** to explain ratings, note particular behaviours, or make general comments. Observers may also record additional comments/notes immediately following the observation.

*Example:*

	Demonstrates Safety Competency	In Progress	Yet To Be Assessed	Notes
<b>SAFETY COMPETENCY</b>				

## Interviewing As A Data Collection Tool

There are generally considered to be four basic types of interviewing for evaluation:

1. the informal conversational interview
2. the interview guide approach,
3. the standardized open-ended interview, and
4. the fixed-response interview

The first three types of interviewing offer variations in the format and structure for questioning, yet they have in common the fact that the client's responses are open-ended and not restricted to choices provided by the interviewer. In the 4th type, the fixed-response interview, the client is asked to choose from a predetermined set of response categories.

### Informal Conversational Interview

This type of interview may occur spontaneously in the course of assessment, and the respondent may not know that an "interview" is taking place. Questions emerge from the immediate context, and situation so the wording of questions and even the topics are not predetermined. The major advantage is that the interview is highly individualized and relevant to the individual: it is likely to produce information or insights that the assessor could not have anticipated.

To use this type of interview requires you to be very knowledgeable and experienced in the content area and strong in interpersonal skills, since you will have considerable discretion in directing the interview. However, since different information is collected from different people, this kind of interview is not systematic or comprehensive, and it can be very difficult and time-consuming to analyze the data.

### Interview Guide Approach

The interview guide approach is intended to ensure that the same general areas of information are collected from each person being interviewed. This method provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting the information from the client.

This may be the most widely used format for qualitative interviewing. In this approach, the evaluator has an outline of topics or issues to be covered, but is free to vary the wording and order of the questions to some extent.

The major advantage is that the data are somewhat more systematic and comprehensive than in the informal conversational interview, while the tone of the interview still remains fairly conversational and informal.

Like the conversational interview, this type of interview also requires us to be relatively skilled and experienced, since we will need to know when to probe for more in-depth responses or guide the conversation to make sure that all topics on the outline are covered. A possible drawback is that sticking to the outlined topics will prevent other important topics from being raised by the respondent. Also, while this format is more systematic than the conversational interview, it is still difficult to compare or analyze data because different respondents may be responding to somewhat differently phrased questions.

## Standardized Open Ended Interview

In this format, the evaluator creates and adheres to a strict script, and there is little flexibility in the wording or order of questions. This is considered to be the most structured and efficient of the interviewing techniques and is useful for reducing bias, when interviewers are less experienced or knowledgeable, or when it is important to be able to compare the answers of different respondents. The major drawback is that you have little flexibility to respond to the particular concerns of the individual, and there is no guarantee that the questions asked tap into the issues that are most relevant to this particular client.

## Fixed Response Interview

In a fixed response interview, the respondent is asked to choose from a predetermined set of response categories.

While much of the value of qualitative interviewing lies in its flexibility and openness, it remains extremely important for the assessor to think through the process and provide the basic structure and framework which will make the study useful and worthwhile. A leading expert in assessment interviewing, Dr. Stephen Kvale, has established that there are several stages in designing and implementing an evaluative interview study, and they are summarized in the next section.

Example questions might include:

Q: I generally work \_\_\_\_\_ hours per day.

A: a) 2-3 b) 4-5 c) 6-8 d) 9 or more

Q: I have received training on the equipment I need to do my work.

A: a) yes b) no

## Thematizing

Before even thinking about particular methods or interview formats, the evaluator needs to be clear on the purpose - *the why* - of the interview and the topic - *the what* - to be interviewed about. These questions of "*why*" and "*what*" need to be answered before the question of "*how*" can be answered.

## Designing

The overall design for the interview is planned before the interviewing begins.

The key to an effective evaluative interview is to ensure it:

- Identifies the skills/behaviours to be assessed
- Establishes what constitutes effective use
- Uses behavioural assessment questions (more on that later!)

## **Interviewing**

The third step is the actual interview itself. This is where you sit down with the client and conduct the assessment interview.

During the interview, setting and climate is important. It will be important to have a quiet area to conduct the interview, where interruptions and background noise will be minimal, and where the client can feel comfortable.

Some guidelines:

1. Set an open non-confrontational tone from the outset. Assure candidates that your role is to be supportive of their attempts to create a safer workplace, and that you are working with them in their goal. Assure them that their responses are confidential. And, importantly, that your role is to assess their experience with workplace safety and hazards - and not to evaluate their job performance level.
2. Do not rush the interview. It takes time for people to get comfortable in an interview setting.
3. Start with open, non-specific questions at first. Ice breakers, such as remarks about the weather, etc. are a good way to start off
4. Do not hesitate to ask a client to repeat an item, or to ask for more detail. Remember, your role is to determine the level of workplace safety and hazard reduction, and that means you need as much information as possible to make an informed decision.

## **Transcribing**

If you have ever watched a court room drama on television or in the movies, you have seen the intrepid court reporter typing away madly, capturing every word said by the people testifying. Rest assured, in an assessment interview this is not necessary or suggested.

Interviewing is an important step in preparing the material from the interview for review. However, it is not necessary, nor possible, to write everything down verbatim, that is, word for word. Rather, the notes process is to allow you to capture the chief points a client brings forward.

Assessors should not use recording devices to record interviews, for ethical and liability reasons. By way of rationale, the prohibition is to avoid the issue of an essentially unnecessary additional level of confidential information security; and, the possibility of the inappropriate future use of the recording.

Rather, it is suggested that you use the notes process: that is, as you talk with the client use a pad of paper to make notes on chief points, and use these notes later in your assessment decision.

## Data collection issues to consider:

- Format: Decide whether you want to conduct interviews or use focus groups, or both. Some questions may not be appropriate to ask in a group setting.
- Sequencing of questions is important. Start with factual questions and move to more analytical ones later in the interview or questionnaire. Leave more sensitive questions for the end of the discussion after a positive rapport has been created.
- Type of question: Vary questions so you have some closed and some open questions. Closed questions can be answered with “Yes” or “No.” Open ended questions allow more space for respondents’ ideas and may reveal unexpected and important areas.
- Sensitive Issues: If you think a particular issue might be sensitive, turn it into a hypothetical question. For example, instead of asking about someone’s salary or income, phrase it more generally: “What might a beginning carpenter make in this district?”
- Conducting the interview: Be flexible. Don’t be too rigid in the structure of the interview, allowing the respondent to go into depth in areas they feel are important. Questionnaires should be treated like a checklist: make sure all questions have been asked by the end of the interview, but the sequence can vary.
- Who is collecting the data? In some cases, children may be involved in data collection, especially when other children are being interviewed.
- Validating information: information can be checked or cross referenced by asking the same question to different people in a single business or by interviewing several businesses in the same sector and district.
- Age of respondents: interviewing children is different from interviewing adults.
  - Children need to feel safe with interviewers before they will speak openly. Think about conducting the interview in a place the child will consider a “safe space.” Offices may be intimidating.
  - Consider conducting the interview with a group of children, rather than one at a time.
  - The interview should be fun to encourage the child or children to participate: consider starting with a short game or providing snacks.
  - Children may find it more difficult to communicate about abstract concepts. Think of different ways to illustrate any abstract concepts you want to discuss.
  - Create a “child friendly” environment in as many ways as possible. If possible, the interviewer could be someone trusted by the children.

## Sample Data Collection Table

<b>Data from business owners</b>	<b>Data from Working Children</b>
<ul style="list-style-type: none"> <li>• Loan identification number</li> <li>• Client identification number</li> <li>• PPIC-Work project number</li> <li>• How many loans disbursed</li> <li>• Client name</li> <li>• Gender</li> <li>• Type of business</li> <li>• Location of business</li> <li>• Loan status (active, paid)</li> <li>• Amount of loan</li> <li>• Typical clients of business</li> <li>• Education loans</li> <li>• Status of education loans</li> <li>• Amount of education loan</li> <li>• Targeted child</li> <li>• Loans for business improvement</li> <li>• Amount of business improvement loan</li> </ul>	<ul style="list-style-type: none"> <li>• Child identification code</li> <li>• Business/Client identification number</li> <li>• Child's name</li> <li>• Gender</li> <li>• Birth date</li> <li>• Number of children in business related to business owner?</li> <li>• Number not related to BO?</li> <li>• Working conditions (seasonal, full or part time)</li> <li>• Number of working hours</li> <li>• Child's education level</li> <li>• Type of work and responsibilities for child</li> <li>• Child's home address</li> <li>• Problems the child faces in this type of work</li> <li>• Child's view of solutions to safety issues</li> </ul>

## Example of Client Information Form With Space For Collecting Social Data:

(Form developed by Zenab Kamel Hasan Foundation, Cairo, Egypt)

### PPIC-Work Client Information Form

#### Data About Workplace:

Owner's name  
Address  
Activities of workplace  
Credit history  
Legal form of business

#### Data About Child or Children:

Name	Age	Gender
Level of education		
School status		
Reason for withdrawing from school (if appropriate)		
Nature of work		
People child deals with in business		
Conditions at work		

#### Data on Working Child's Family:

Economic role of child  
Parents' employment status  
Other siblings