MANAGING FOR TRAINING AND ASSESSMENT EXCELLENCE
A practical guide for the training and development community
INTRODUCTION

This Practical Guide is published for Approved Training Organisations (ATOs) under the Singapore Workforce Skills Qualifications (WSQ) System. ATOs are strategic partners of the Singapore Workforce Development Agency (WDA) in upholding the rigour of the training and assessment under WSQ. This guide provides practical tips to assist ATOs to strengthen their internal systems and processes, as part of WDA’s holistic quality assurance system.

WSQ is a national credentialing system that trains, develops, assesses, and recognises adult workers for competencies they need to stay employable. Introduced in 2004, the WSQ, which is based on standards developed by the WDA and endorsed by industry, helps workers acquire skills needed by employers at the workplace. It maps out clear progression pathways which workers can leverage on to upgrade their skills and plan their careers.

Training and assessment under the WSQ system are competency-based, i.e., not academic-based. Workers need only to demonstrate relevant skills, knowledge, and aptitude before they receive their certifications. As WSQ does not have any prerequisite entry criteria such as academic qualifications, it is accessible to all workers. Instead, workers can gain entry based on skills and knowledge. WDA ensures the quality of WSQ through means such as the development of competency standards, the accreditation of training providers, and the award of qualifications.

This guide is also applicable to ATOs under the National Skills Recognition System (NSRS). The NSRS was launched in 2000 as a national framework for certifying the skills acquisition of workers in certain job functions.

Through this guide, ATOs - both public as well as in-house training providers - can build their capabilities by adopting the following to strengthen their internal systems and processes:

a. The Plan-Do-Check-Act Improvement Process
b. The Assessment Management System
c. Linking Training to Outcomes
THE QUALITY ASSURANCE PROCESS

WDA's holistic quality assurance system aims to uphold the high standards of the WSQ and NSRS systems while proactively supporting Approved Training Organisations (ATOs) in building their capabilities to operate effectively.

In the WSQ system, WDA or a WDA appointed Course Accreditation Body accredits training bodies, their courses and assessment plans prior to the commencement of a course. Training bodies accredited under WSQ are referred to as ATOs. Workers undergoing the course and assessment conducted by an ATO will be issued a Statement of Attainment (SOA) after being certified competent in a particular competency (e.g., interact with Customer). A qualification (e.g., WSQ Certificate in Retail Operations) will be awarded after a worker has accumulated the required SOAs at a certain level of training (e.g., Operational level).

Figure 1: WSQ SOA and WSQ Qualification

In the NSRS system, ATOs are awarded the Approved Training Centre (ATC) status for the delivery of NSRS programmes. These programmes are referred to as Approved Training Programmes (ATPs). ATOs that conduct NSRS assessments will be awarded Approved Assessment Centres (AAC) statuses. WDA issues a National Skills Certificate (NSC) to workers who have successfully passed the prescribed assessment.

Figure 2: NSRS National Skills Certificate

Figure 3 provides an overview of the quality assurance process. It comprises pre-delivery approval (Accreditation) and post-delivery review (Continuous Improvement Review or CIR). In the annual CIR exercise, WDA will act as an external validator for the internal processes of ATOs. Where necessary, WDA will assist ATOs in preparing for their Accreditation or for the CIR. Such assistance (or capability development interventions) will include the provision of one-to-one consultations, publication of guide books, organisation of seminars and forums, and identification of strengths and areas for improvement during the CIR.

As part of their daily operations, ATOs will conduct the Plan-Do-Check-Act process, and put in place a rigorous assessment management system to ensure that the design and delivery of training and assessment will meet business outcomes.

Figure 3: WDA Quality Assurance Process
THE PLAN-DO-CHECK-ACT IMPROVEMENT PROCESS

The PDCA improvement process is a model of continuous improvement that is widely practiced. In line with our approach to proactively assist in capability development, ATOs are encouraged to adopt the PDCA improvement process which will help in the design and delivery of training and assessments. Efforts to institute or adopt the PDCA improvement process by ATOs will be acknowledged during the Continuous Improvement Review (or CIR) stage.

This section will cover the following:
- The Concept of PDCA
- Applying PDCA in the daily operations of ATOs
- Roles and Responsibilities of ATOs

The Concept of PDCA

The PDCA is a dynamic model designed by W. Edwards Deming. The American Society of Quality recommends PDCA as a model for continuous improvement. It is a four-step model for carrying out change or improvement. As illustrated in Figure 4, the PDCA cycle is repeated continuously and has no end.

Figure 4: Plan-Do-Check-Act Cycle

Step 1: Plan

The first step is about selecting a process or system and examining it with a view to improve or change and/or identify the right opportunities for change.

Step 2: Do

The second step involves the execution of the intended change or test. The objective here is to implement the change decided in Step 1 and to record the change in results.

Step 3: Check

This third step is crucial in the PDCA cycle in reviewing errors and learning points. After the change or test has been carried out for a specific time, we must determine how well it is working. Attention must be paid to whether the change has really led to an improvement in the way that was intended. Several measures to monitor the improvements may be necessary to ascertain the degree and confirmation of improvements.

Step 4: Act

The fourth step involves checking to see if the change in the process or system should be continued. If the change or improvement has led to a desirable outcome, actions can then be taken to consider expanding the trial or slightly increasing the complexity of the improvement. This connects it back to Step 1 or the Plan phase of the PDCA cycle.
Applying PDCA in the daily operations of ATOs

PDCA is concerned with the management of the entire organisational system and processes with the aim of achieving organisational excellence. Many of the organisational excellence models such as Singapore Quality Class, America’s Malcolm Baldridge, and European Foundation for Quality Management use the PDCA cycle for continuous improvement.

Today, the business environment is constantly changing, along with rising expectations of learners and their supervisors. Training and development has been widely adopted as the performance intervention strategy by many organisations. There is an increasing need to make training effective because employers are investing thousands of dollars into training and development with the aim of improving business and operational results. Training institutions or organisations with training functions therefore need to continuously seek ways to improve training effectiveness.

Under WSG and NSRS, ATOs play a critical role in the design and delivery of quality training and assessment based on industry-endorsed competency standards. The effectiveness of training depends on:

1. Design and Development of Curriculum: Design and develop courseware and assessment based on the selected competency standards
2. Delivery of Training and Assessment: Conduct training and assessment as accredited
3. Evaluation of Training and Assessment Outcome: Evaluate Level 1 to Level 4 outcomes as agreed with stakeholders
4. Implementation of Training-Related Administrative Functions: Administrative functions include supervising the operations of training, administering assessment systems, managing and coordinating certificate printing and issuance, etc.

In an effort to build up the capability and quality of ATOs, WDA has designed the Continuous Improvement Review (CIR) to complement the efforts of ATOs in the PDCA process. CIR is one of the key responsibilities of an ATO. Every ATO is expected to maintain and upkeep the standard of delivery in training and assessment, as well as pursue continuous improvement with the aim of improving the quality of training and assessment delivery.

In order to make continuous improvement a part of their training process, ATOs may wish to adopt the PDCA cycle commonly used for quality improvements.

This section suggests areas in the daily operations of ATOs in which the PDCA cycle can be adopted.

1. Design and Development of Curriculum
   Design and develop courseware and assessment based on the competency standards and review the relevance, at the same time identifying areas of improvement.
   - **Plan**
     - Establish the need and purpose of training
     - Decide what and how to measure if training meets the purpose
   - **Do**
     - Design and develop training and assessment that is built on the targets determined in the Planning stage
     - Deliver training and assessment
   - **Check**
     - Hold regular reviews and checks to gather feedback
     - Review whether original objective of training is achieved
     - Identify improvement requirements
   - **Act**
     - Make improvements to the training course

2. Delivery of Training and Assessment
   Conduct training and assessment as accredited and review training delivery and conduct of assessments.
   - **Plan**
     - Identify the modules and sessions of training and assessment to be reviewed
   - **Do**
     - Conduct the moderation and validation sessions with trainers and participants, and assessors and assesses
   - **Check**
     - Study the suitability of training methodology for the group
     - Study the validity and reliability of the assessment under review
     - Identify areas of improvement
     - Validate once again with trainers and participants, and assessors and assesses
   - **Act**
     - Implement the changes
3. Evaluation of Training and Assessment Outcomes
   Evaluate Level 1 to Level 4 outcomes as agreed with stakeholders and ascertain if the outcomes have been achieved.

   - Plan
     • Establish the level of outcomes for the training programme (i.e. Level 1 – Level 4)
     • Conduct learning needs analysis
     • Use learning needs analysis to guide purpose of learning
     • Set appropriate learning objectives
     • Pitch the course at appropriate level of knowledge for target audience
     • Apply appropriate instructional methods to transfer knowledge and skills

   - Do
     • Deliver training and assessment as planned

   - Check
     • Evaluate training programme and determine how well they have met training outcomes, set in the Plan stage
     • Suggest areas of improvement

   - Act
     • Implement areas of improvement on training and assessment

4. Implementation of Training-Related Administrative Functions
   Administrative functions include supervising the operation of training, administering assessment system, managing and coordinating certificate printing and issuance, etc.

   - Plan
     • Review important training administration functions related to WSQ and NSLS (e.g. lesson control, training records, training evaluation summaries, training review, assessment records, assessment reviews, trainer selection, trainer records, certificate issuance)

   - Do
     • Establish Standard Operating Procedures (SOPs)
     • Document SOPs

   - Check
     • Identify areas for improvement
     • Review customer satisfaction

   - Act
     • Implement changes and evaluate feedback

Alternatively, ATOs may wish to examine the different phases of training and review the more important areas as specified below. The list is not exhaustive, and ATOs may use it as a reference only.

<table>
<thead>
<tr>
<th>Training Phase</th>
<th>Specific Areas for Review</th>
<th>Documentary Evidence</th>
</tr>
</thead>
</table>
| Before Training | Plan the training          | Lesson Plan
|                 | • Conduct learning needs analysis | Participant Guide
|                 | • Use learning needs analysis to guide purpose of learning | Facilitator Guide
|                 | • Set appropriate learning objectives | Presentation Materials
|                 | • Pitch the course at appropriate level of knowledge for target audience | Activity Instructions
|                 | • Apply appropriate instructional methods to transfer knowledge and skills | |
| During Training | Prepare the Learning Environment | Proper Administration Support
|                 | • Prepare materials/equipment | Assessment Administration Documents
|                 | • Ensure trainers are competent so that they will transfer knowledge and skills using appropriate instructional materials and methods | |
|                 | • Manage group dynamics | |
|                 | • Administer classroom activities | |
|                 | Prepare the Assessment Environment | |
|                 | • Plan the assessment in accordance with the principles of assessment and rules of evidence | |
|                 | • Prepare for the administration of assessment | |
|                 | • Ensure assessors are competent so that they will conduct the assessment professionally | |
|                 | • Conduct the assessment that adheres to the assessment plan | |
| After Training  | Evaluate Training Outcomes | Measurement Instruments
|                 | • Determine the levels to measure training effectiveness | |
|                 | • Design and develop instruments to measure training effectiveness | |

Roles and Responsibilities of ATOs

ATOs should establish clear policies on the application of PDCA on top of instituting the PDCA cycle into their key functions and processes. As a basic adoption, it is recommended that the PDCA cycle is conducted at least once a year, in the following areas:

- Key improvement areas to be reviewed
- Roles and responsibilities of staff members & partners
- Terms of reference of the review
- Review methodology and frequency
- Documentation and follow-up actions

Conclusion

PDCA is a simple model for ATOs to embark on continual improvement with the aim of achieving organisational excellence. The success of implementing PDCA hinges on the total commitment of every staff member including the senior management. The Singapore Continuing Education and Training (CET) landscape will be robust and responsive when ATOs are continuously striving to scale new heights through improvement and innovation in training design and delivery.
Assessment is an integral part of the WSQ and NSRS system as it puts to test the competencies of the worker and decides if he/she should be certified competent. It is the responsibility of every stakeholder to uphold the integrity of the assessment process. The Assessment Management System (AMS) requires ATOs to put in place a simple but robust monitoring and reviewing system to ensure that the standards of the credentialing system are upheld.

This section will cover the following:
- The Assessment Management System for WSQ and NSRS
- Roles and Responsibilities of WDA & ATOs
- Documentation for Continuous Improvement Review

The Assessment Management System for WSQ and NSRS

As national skills certification systems, both WSQ and NSRS adopt a competency-based assessment approach where competency standards are used as criteria for the assessment design and implementation. Assessment in these circumstances certify that a particular level of competence has been achieved. Decision on assessment is being phrased as 'competent' or 'not yet competent'.

To ensure that the integrity and rigour of the certification systems is respected, all ATOs must put in place a comprehensive assessment management system internally. The following criteria must be present when selecting assessment methodologies:

1. Validity refers to how well the result really reflects the skills, knowledge, and attitudes it intends to assess. This is the most critical element of the competency-based assessment. There are multiple aspects of validity that should be taken into consideration. These include content validity, construct validity and face validity.

2. Reliability refers to the extent to which a similar result would be obtained if the assessment were to be repeated. With assessments taking place among ATOs, and by multiple assessors, reliability should be assured at two levels:
   a. Individual assessor - a ‘reliable’ assessor makes the same decision on a particular assessment whenever he conducts it.
   b. Multiple assessors - when more than one assessor is involved, it is important to ensure that assessments are conducted based on similar standards so that all assessors will end up making the same judgment.

3. Authenticity is present when the evidence produced by the candidate is a true and original reflection that he/she has acquired the selected competencies. Authentic evidence is critical to the certification of a candidate's competency and should be as relevant as is possible to the workplace.

4. Currency refers to the need for evidence of performance to be sufficiently recent. Since the WSQ and NSRS assessment is meant for the certification of skills, the currency of the evidence is of paramount importance. The issuance of a SOA or NSC declares that the candidate is ‘certified competent at point of assessment’.

5. Utility refers to the practicality of the assessment methodology in terms of time and resource utilization. The most practical assessment tools must be used depending on the context and condition of assessment. It is impractical to design assessment plans that are too resource intensive.

A comprehensive Assessment Management System has a systematic approach to ensure quality in assessment through regular managing, monitoring and reviewing of the assessment system. The table below suggests possible steps to be taken by an ATO at each stage of the PDCA process to ensure that quality assessments are taking place.
THE ASSESSMENT MANAGEMENT SYSTEM

Roles and Responsibilities of WDA & ATOs

WDA and ATOs will work hand-in-hand to ensure quality and rigour in WSQ and NSRS assessments. The primary responsibility of ATOs is to ensure that a sound internal assessment management system is in place. WDA will validate and moderate the practices among ATOs across industries. The respective roles and responsibilities of WDA and ATOs are summarised in the table below:

<table>
<thead>
<tr>
<th>Pre-Delivery Phase</th>
<th>Post-Delivery Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATOs</td>
<td></td>
</tr>
<tr>
<td>• Ensure assessors are qualified</td>
<td>• Conduct periodic moderation sessions with assessors</td>
</tr>
<tr>
<td>• Ensure assessment plan provides clear instructions to assessors and assessees</td>
<td>• Review feedback from candidates and assessors on the assessment</td>
</tr>
<tr>
<td>• Provide necessary orientation or training to assessors before assessment</td>
<td>• Make improvements to the assessment plan</td>
</tr>
<tr>
<td>• Put in place systems and procedures to facilitate monitoring and moderation of assessments</td>
<td>• Train and upgrade the skills of assessors</td>
</tr>
<tr>
<td>WDA</td>
<td></td>
</tr>
<tr>
<td>• Ensure competency standard documents present clear and accurate information on the performance criteria, underpinning knowledge, range of content, and evidence sources</td>
<td>• Document the change</td>
</tr>
<tr>
<td>• Ensure only credible training organisations with established systems are approved to deliver the training and assessment</td>
<td>• Conduct periodic external reviews of ATOs' in-house system</td>
</tr>
<tr>
<td>• Ensure all assessment plans are accredited in accordance with the competency standards</td>
<td>• Identify strengths and areas of improvement for ATOs</td>
</tr>
<tr>
<td>• Provide standard assessment plan if necessary</td>
<td>• Provide capability development support to ATOs</td>
</tr>
<tr>
<td>• Conduct annual moderation sessions for targeted group of ATOs and personnel</td>
<td>• Conduct periodic review and studies on the reliability and dependability of assessment practices</td>
</tr>
</tbody>
</table>

Documentation for Continuous Improvement Review

ATOs are encouraged to document the assessment management system and practices that they have implemented in preparation for the CR. Some relevant and useful documentation include the following:
- Documentation of in-house assessment management policies and processes
- Notes of meeting with assessors
- Evaluation forms from candidates
- Evaluation reports of assessment practices
- Evaluation reports from inspectors and/or moderators
- Documentation of amendments/improvements made to assessment plans
- Evidence of training conducted for Assessors

Conclusion

The success of WSQ and NSRS has to be supported by robust assessment practices. This requires the collaboration of all stakeholders, namely the learners, assessors, ATOs and WDA. All stakeholders must adopt a continuous improvement approach to the assessment design and implementation. This guide provides a quick overview of the assessment management system for ATOs, without dwelling on too much detail. ATOs are urged to put in place a rigorous assessment management system to support the implementation of WSQ and NSRS. WDA will continue to render its support to ATOs to deliver better training results.

LINKING TRAINING TO OUTCOMES

Training is a performance intervention strategy commonly applied by companies to achieve intended business outcomes. For training to be effective, personnel in training and development must be aware of training outcomes. This entails careful analysis, planning and monitoring of the training outcomes, and has to take place right from the beginning, at the planning stage.

This section suggests techniques for applying the training evaluation approach and will cover the following:
- Linking Learning and Performance to Business Outcomes
- Planning and Implementing Training Evaluation
- Kirkpatrick’s 4 Levels of Evaluation
- Evaluation Before, During, and After Training
- Roles and Responsibilities of Stakeholders

Linking Learning and Performance to Business Outcomes

Training is one of the many performance intervention strategies. Its key purpose is to bridge the performance gap between current and desired behaviour of staff in terms of knowledge, skills and attitude. This will allow them to contribute towards the organisation’s mission and achieve business goals.

A study released by the American Society for Training and Development (ASTD) in 1998 identified the rising need to make training related performance improvement measurement the key priority for the new millennium. More and more CEOs are demanding to know how and if the organisation is benefiting from the hundreds of thousands of dollars invested in training annually. Responsible trainers and course designers want to know the extent of the impact that their programmes have on individuals and the organisations that they are serving. Trainees and their supervisors want to know more about the benefits that can be expected from taking time away from work to participate in a training programme.

In order to meet the rising need of linking training to outcomes, WDA has adopted an outcome-based approach for all workforce development initiatives.

Planning and Implementing Training Evaluation

Effective training requires careful planning and execution to ensure that trainees will attain the requisite skills and be able to transfer learning to the workplace. As a result, their performance will contribute towards the intended business or operational outcomes. A comprehensive planning and evaluation of training will start with a needs analysis to determine the actual reason for the intervention. In the case that training is selected as the intervention strategy, a discussion of the training design will follow, leading to the actualisation of training.

After which, evaluation of the training will take place. The results of the training evaluation will then be used to determine the course of the next cycle. This ensures that improvements are made and that training is continuously reviewed. Figure 5 illustrates the process of linking learning and performance to business outcomes.
Kirkpatrick’s 4 Levels of Evaluation

Developed by Donald Kirkpatrick (1994), the 4 Levels of Evaluation is commonly used to evaluate training effectiveness. According to Kirkpatrick, training evaluation should always begin at Level 1. Training evaluation should move sequentially through Levels 2, 3, and 4, as much as time and budget constraints would allow. Information from each level serves as a basis for the evaluation of the next level. Thus, each successive level represents a more precise measurement of the effectiveness of the training program, requiring an increasingly rigorous and time-consuming analysis. Figure 6 illustrates how resource and difficulty levels increase as one moves from one to the next level of evaluation.

Figure 6: Positive Relationship between Levels of Evaluation and Resource & Difficulty Levels
Evaluation Before, During and After Training

Evaluation Before Training

The Evaluation process should begin with an analysis of the business or operational needs. This can be achieved by asking the right questions.

The following list has been adapted from the questions suggested by Scott B. Perry in his book 'Evaluating the Impact of Training - A Collection of Tools and Techniques'.

1. Who requested for the training? (department, name, title)
2. Why? (operational problem or business opportunity)
3. Who are the trainees? (the number, their job scope)
4. What will be the turnover and growth of the identified trainees?
5. What is the expected duration of the training?
6. What are their performance gaps? (knowledge, skills and attitude)
7. What improvements and outcomes are desired from the trainees?
8. What kind of indicators are available to measure the outcomes stated in question 7?
9. What improvements and outcomes will benefit for the organisation?
10. What kind of indicators are available to measure the outcomes stated in question 9?
11. Are there other training objectives?
12. What are the factors helping and hindering performance in the workplace?
13. What are the topics and course content?
14. Who is the subject matter expert?
15. Is the training readily available?

The answers to the questions listed above are critical for the planning of training and ensuring its effectiveness. ATOs should assist their clients or company in identifying the training objectives. The template at Annex A can be used to document the desired outcomes and targets with the corresponding measurement indicators. The template adopts the Kirkpatrick’s Training Evaluation Model. To successfully measure training outcomes, the measurement indicators and target must be established prior to the training. Some of the common indicators available within companies are listed in Annex A. With this, the training personnel would be able to purchase or develop the appropriate training programme, and propose appropriate evaluation measurements.

Evaluation During Training

Evaluation conducted during training allows checks to be made on the training progress. In this way, appropriate remedial actions can be taken to correct the training before it concludes. Evaluation during training may take place at two levels:

1. Are the participants comfortable with the training? (Kirkpatrick Level 1 – Reaction)

   Examples:
   - How is the room set up?
   - Is the training venue accessible?
   - Is the pace of the course suitable?

   It is also important to assess the relevance of the training content in how it can be applied back at the workplace. Most of the time, Level 1 (Reaction) evaluation is conducted at the end of the course. Informal interim checks are recommended, to ensure that the training is progressing well.

2. Are the participants learning? (Kirkpatrick Level 2 – Learning)

   Examples:
   - Did you learn what you intended to learn?
   - Was the learning useful for you?

   The evaluation may come in the form of assessment of knowledge, skills and attitude. For example, a criterion-based assessment may include a practical test, or a quiz on underpinning knowledge. During the training, the kind of assessment may be formative in nature to ascertain if participants are learning, so as to ensure that necessary attention will be provided to those who need help.

Evaluation After Training

At the end of the training, all formal training evaluation will take place.

Level 1 (Reaction):

The commonly known smile sheet survey is used at the end of training. Annex C shows a sample of the Level 1 evaluation form recommended by WDA. This course evaluation is an important survey which allows ATOs to have a quick sense of training effectiveness. The questions in Section 1 of Annex C cover key indicators such as:
- Programme fulfilling intended objectives
- Relevance to current or future job
- Intention to apply what is learnt at work
- Better performance with new competencies gained
- Recommendation to others to attend
- Overall satisfaction of the training programme

It is recommended that indicators on Section 1 of Annex C be wholly adopted or incorporated into the course evaluation form. As part of GfI, WDA will review the Level 1 indicators under Section 1 of Annex C, by the ATO every six months. Section 2 is optional, and ATOs can choose to utilise, supplement or omit this section according to the specific needs of their organisation, or the organisation that they are servicing.
**LINKING TRAINING TO OUTCOMES**

Minimally, the targets set for Level 1 outcomes should include:
- 100% response rate from participants
- 75% satisfaction rate with the training per run (minimum Level 4 out of 6 on the Likert scale)

**Level 2 (Learning):**
This level measures the extent to which participants have met the desired expected performance.

Under WSQ and NSPs, assessments are compulsory to certify the candidate is competent in the selected competency standards. WDA monitors the Level 2 outcomes of all ATOs on a regular basis.

Minimally, the targets set for Level 2 outcomes should include:
- 100% attempt rate from participants
- 75% pass rate and above per run

**Level 3 (Transfer) and Level 4 (Results):** Unlike Level 1 and 2 outcomes, Level 3 and Level 4 outcomes can only take place at the workplace. The direct supervisor is the best person to monitor the performance of a participant who has completed the training.

Level 3 outcomes are achieved when the participant demonstrates a consistent change in behaviour over a period of time. Level 4 outcomes can be tracked by referring back to the measurement indicators and targets set during the pre-training phase (needs analysis). Sufficient lead time must be provided for Level 4 outcomes to be transferred to the workplace. This may take from 3 to 6 months or more, depending on the indicators and targets to be measured. Usually, Level 3 and 4 outcomes are company-specific, resulting in some variation from company to company.

The focus and minimum measurements are summarized in Figure 7.

---

**Roles and Responsibilities of Stakeholders**

The critical success factors to effectively link training to business outcomes lies with the various stakeholders. The 4 key stakeholders are:
(a) individuals attending the training, (b) their direct supervisor(s), (c) training personnel, as well as, (d) the ATO who offers training and assessment services.

(a) **Individuals attending the training:** The individual must have the mindset of embracing change, do their best during the learning process and be able to apply the skills learnt back at the workplace.

(b) **Direct Supervisor(s):** The supervisor must support their workers by providing opportunities for the individual to apply what they have learnt. Supervisors should continue to provide coaching to those who have completed their training. The direct supervisor is the best person to monitor whether Level 3 outcomes have been achieved. The management’s support of the initiative is essential as well. Level 4 outcomes must be monitored and tracked accordingly.

(c) **Training Personnel:** Training personnel here refer to those who are directly involved in the planning and implementation of the training programmes. The role of the training personnel lies in assisting the requestor in the articulation of training needs and objectives. After which, the training personnel will then decide to either purchase or design an in-house training programme. Post training, evaluation will be conducted to ascertain if the training outcomes have been met. It is important to know that Level 3 outcomes can be effectively designed and implemented as part of the programme.

(d) **ATO:** A responsible training provider will offer a total business solution by helping his clients plan and design the training evaluation at different phases of the training (pre-training, training and post-training phases). The value-added service provided by a responsible training provider will distinguish them from other ordinary providers.

**Conclusion**

The success of any training programme depends on how well the programme can meet business outcomes and needs. This will assure the continued support of key decision makers for training such as the direct supervisors, HR departments and senior management teams. The journey of evaluation does not end after the conclusion of the course, but continues to be reviewed in the next training cycle where the training environment is constantly evolving, presenting new business challenges and redefining business goals once again.
Planning Training Needs to Meet Business Outcomes

Organisation: XYZ Inc
Department: Customer Service Department
Requested by: Mr. John Tan, Customer Service Manager
Date: 28 May 20XX

<table>
<thead>
<tr>
<th>Level</th>
<th>NEEDS</th>
<th>OBJECTIVES</th>
<th>MEASURES AND TARGETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Business needs</td>
<td>Improvement in sales in electrical products</td>
<td>Impact objectives</td>
</tr>
<tr>
<td>3</td>
<td>Application needs</td>
<td>Staff are able to apply learning at workplace</td>
<td>Application Objectives</td>
</tr>
<tr>
<td>2</td>
<td>Learning needs</td>
<td>Product knowledge on new range of electrical appliances</td>
<td>Learning objectives</td>
</tr>
<tr>
<td>1</td>
<td>Reaction</td>
<td>Staff are satisfied with the training</td>
<td>Satisfaction, Reaction and Action Objectives</td>
</tr>
</tbody>
</table>

Sample Indicators for Evaluation of Training – Hard Measures

- OUTPUT
  - Units Produced
  - Tons Manufactured
  - Items Assembled
  - Money Collected
  - Items Sold
  - Forms Processed
  - Loans Approved
  - Inventory Turnover
  - Patients Visited
  - Applications Processed
  - Students Graduated
  - Tasks Completed
  - Output Per Hour
  - Productivity
  - Work Backlog
  - Incentive Bonus
  - Shipments
  - New Accounts Generated

- TIME
  - Equipment DownTime
  - Overtime
  - On Time Shipments
  - Time to Project Completion
  - Processing Time
  - Supervisory Time
  - Break In Time
  - Training Time
  - Meeting Schedules
  - Repair Time
  - Efficiency
  - Work Stoppages
  - Order Response
  - Late Reporting
  - Lost Time Days

- COSTS
  - Budget Variances
  - Unit Costs
  - Cost By Account
  - Variable Costs
  - Fixed Costs
  - Overhead
  - Operating Costs
  - Number of Cost Reductions
  - Project Cost Savings
  - Accident Costs
  - Program Costs
  - Sales Expense

- QUALITY
  - Scrap
  - Waste
  - Rejects
  - Error Rates
  - Rework
  - Shortages
  - Product Defects
  - Deviation From Standard
  - Product Failures
  - Inventory Adjustments
  - Time Card Corrections
  - Percent of Tasks Completed Properly
  - Number of Accidents

Sample Indicators for Evaluation of Training – Soft Measures

- WORK HABITS
  - Absenteeism
  - Tardiness
  - Visits to the Dispensary
  - First Aid Treatments
  - Violations of Safety Rules
  - Number of Communication Break-downs
  - Follow-up

- NEW SKILLS
  - Decisions Made
  - Problems Solved
  - Conflicts Avoided
  - Grievances Resolved
  - Counselling Problems Solved
  - Reading Speed
  - Intention and Frequency to Use New Skills

- FEELINGS / ATTITUDES
  - Favourable Reactions
  - Attitude Changes
  - Perceptions of Job Responsibilities
  - Perceived Changes in Performance
  - Employee Loyalty
  - Increased Confidence

- WORK CLIMATE
  - Number of Complaints
  - Employee Compliments
  - Job Satisfaction
  - Employee Turnover

- DEVELOPMENT / ADVANCEMENT
  - Number of Promotions
  - Pay Increases
  - Number of Training Programs Attended
  - Performance Appraisal Ratings

- INITIATIVE
  - Implementation of New Ideas
  - Successful Completion of Projects
  - Number of Suggestions Submitted
ANNEX C

Please complete this form as your feedback will allow us to improve the Singapore Workforce Skills Qualifications (WSQ) Programme which you have just completed.

Training Information
Training Provider
Training Program
Trainer Name
Training Dates

Personal Information
Participant Name
Company Name
Current Designation
Sponsorship (Full/Partial)  □ Self □ Company □ Others (State)
Attending this Program is  □ Self initiated □ Company initiated

Section 1: For each statement below, please choose the response that best represents your opinion.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

In my opinion....

1. The training program has met all of its intended objectives.

2. The content of the program is relevant to my current or future job.

3. The knowledge/skills I have learnt in this program, are important in the context of my current job or the job I am seeking.

4. I intend to apply the knowledge/skills I have learnt in this program at my workplace or to my new job.

5. The knowledge/skills learnt in this program will enable me to perform better in the trained competencies.

6. I would recommend this program to someone I know who may find this competency useful.

7. Overall, I am satisfied with the training program.

Please select the responses below and rank from 1 – 5, where 5 is the most important reason.

I am attending this training program

a. to improve/upgrade my knowledge/skills in my current job
b. for promotional opportunities
c. as I have been promoted to a higher designation which needed new competencies
d. for job cross functional designations
e. to improve my knowledge/skills to move to another job within the company
f. to improve my knowledge/skills to move to another job in another company
g. Others: __________________________________________

Section 2: Please provide your feedback in the space provided.

Please provide TWO specific actions you PERSONALLY will take at work to apply what you have learned from this program.

1. 

2. 

What do you consider to be the major barriers to applying your new knowledge/skills at the workplace?

1. 

2. 

3. 

Please provide any comments here about the management and services of this programme.

Thank you for your feedback. We will consider all inputs and suggestions with the aim of improving our programmes and enhancing our service delivery. We look forward to seeing you in other WSQ programmes.
REFERENCES AND RESOURCES

The Plan-Do-Check-Act Improvement Process

Books


Papers
Pupius, Mike : Achieving Excellence in Education and Training. Sheffield Hallam University, United Kingdom.

Websites

Singapore Quality Class

USA Malcolm Baldrige for Education

European Foundation for Quarterly Management
<http://www.efqm.org/> <accessed on 17 April 2007>

The Assessment Management System

Books


Websites

Linking Training to Outcomes

Books


Approved Training Organisation (ATQ)
ATOs are training organisations accredited under the WSQ and NSRS. In this guide, ATO also refers to Approved Training Centre (ATC) and Approved Assessment Centre (AAC) that operates under the NSRS.

Assessment
Workplace assessment is about judging whether a person has reached the appropriate level of competency or has achieved the competency standard.

Competency
Competency comprises knowledge, skills or attributes that are required to perform the activities of a given role or fulfill a particular job function.

Continuous Improvement Review or CIR
Upon accreditation, all ATOs are expected to pursue continuous improvements to uplift their quality of design and delivery. The CIR is conducted periodically to validate the internal quality assurance system and capability of each ATO.

Formative Assessments
Formative assessments are assessments done during the progress of the course, and usually do not contribute to the final test result. This can take the form of an essay test or a role play. The purpose is to check the progress of the participants and to modify the pace or delivery to suit the participants’ progress. In contrast, summative assessments are comprehensive assessments done at the end of the course. The purpose is to determine if the participant had acquired the learning from the course. Summative assessments usually decide if a participant has acquired the skills or knowledge from the course and hence is more conclusive.

Plan-Do-Check-Act or PDCA Cycle
The PDCA cycle acts as a framework and provides for the improvement of processes or systems. It is a closed-loop diagram and represents the continuous cycle of quality improvements.

Qualification
Upon obtaining the required SOAs, participants will obtain a national qualification in the form of e.g. Certificate, Advanced Certificate or Diploma.

Statement of Attainment (SOA)
After successful completion and assessment of each training module, participants will receive a formal recognition of an SOA. The SOA is nationally-recognised and indicates the participant’s ability or competence in a particular area.

Upgrading Pathways
A learning route to acquire the competency. One route could be training and assessment, another assessment only or through the Recognition of Prior Learning.
About the Singapore Workforce Development Agency

The Singapore Workforce Development Agency (MDA) seeks to enhance the employability and competitiveness of our workforce to meet the changing needs of Singapore’s economy. Working with industry, unions, employers, economic agencies, professional associations and training organisations, the agency’s efforts are targeted at supporting industry growth by building a pipeline of workers through training and skills upgrading, and raising industry standards through enhancing manpower capabilities.

Find out more
Contact us at:

Singapore Workforce Development Agency
1 Marina Boulevard
#16-01 One Marina Boulevard
Singapore 018389
Tel: 6883 6888
Fax: 6812 1111
Email: mda_cdrm@wda.gov.sg