Trainer Resource Manual 1

15 Magic Words

Practical and Pragmatic Instructional Design for VET

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Introduction

Feedback provided by ASQA has indicated that almost half of all RTOs fail to meet SNR compliance because of poor instructional design and assessment standards.

By far, the primary cause of this is a lack of understanding on how to develop assessments that meet all components of competency standards, not just to the element level and written to a hack formula.

The other cause is heavy reliance on commercial resources (even some of those with the 'quality tick') many of which, when mapped against the standards, fail the validity test.

The majority current trainers received their training qualification pre TAA40104 or through direct bridging RPL, without necessarily having to demonstrate that they can:

- accurately interpret a qualifications framework
- make appropriate Unit selections for the AQF level and elective choices
- map Units to ensure that all components are included in the assessment methods
- map related Units to develop holistic assessments

Further, this situation is being confused by auditors who say *'You don't need to map Units any more'* to admitting that without mapping, it is difficult to make an objective judgement that assessments are:

valid **and** reliable

For all the millions of dollars that have been expended in providing information on instructional design, very few seem to have benefited from it.

Mostly the theoretical background has been presented quite divorced from practical methologies on how to integrate them into working documents.

We have a combined 60 years of experience in making sense of theory and synthesising it and practical realities into a coherent, understandable and practical whole.

It is the intention of this book to provide the links and help you make sense of the theory in words that even the newest of novices can understand. We are not going to spend a lot of time re-iterating theoretical constructs, because you can follow these up elsewhere. Our aim is to get you started, productive and motivated. Being utterly pragmatic people who run 3 related businesses, we appreciate that time is money. However, for RTOs, failing to make the grade at audit costs a great deal more than investing time in 'how to' so that your products pass the grade first time and every time.

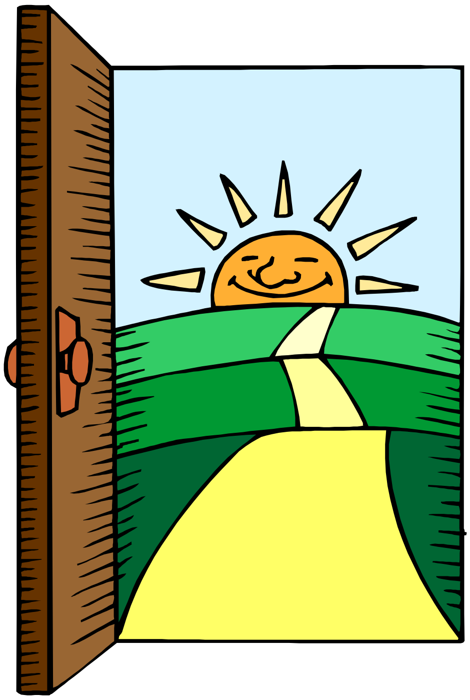
Our methods are simple, but sophisticated and have made our resources leading edge.We have found easy-to-apply ways to pass on the 'trade secrets' we use as commercial publishers and trainers.

All of the matrices, methods and tips and tricks we present here will help you:

- develop valid and reliable assessments
- design appropriate resources for the level and qualification
- make your resources user-friendly without over-simplification
- evaluate commercial resources so that you can supplement them
- save time and money by 'getting it right the first time!'

Follow the yellow brick road to success!

You might not have a killer pair of red sparkly shoes or a feisty little dog, but you can follow our journey to develop unique and quality products that others will envy and auditors will praise!



The journey

Before you begin:

- Develop the knowledge to inform your quest

Open the door:

- Why you need to go (the TNA)
- Visualise the destination (the outcomes)
- What makes a good journey (the dimensions)
- Why you are taking the trip (the benchmarks and goals)
- What you need to succeed (the maps)
- Plan your resources (matrices, plans, tools and instructions)
- Packing for the trip (pulling it all together)

Set foot on the road:

- Check your knowledge
- Choose a method to get there easily
- Explore interesting side attractions (the experimentation phase)
- Talk to fellow travellers (validation)
- Adjust your pack (review)

Check your progress:

- Go over your maps (self-evaluation)
- Talk to fellow travellers (validation)
- See if there are better ways to get there (learning as you go)

At your destination:

- Look back over your journey (editing)
- Show off your brag book to others (on your CV or an e-portfolio)
- Reward yourself by looking for a new journey to take

The skills for your backpack:

- Research
- Analysis
- Planning
- Organising
- Implementing
- Monitoring
- Evaluating

Contents

Topic One: The foundations of our craft

Being the Magus

Nobody can become a world class magician without appreciating that it takes more than standing there in a fancy costume and saying 'Abracadabra'.

A magician has to know a lot about the foundations of the craft before they can amaze, bedazzle and engage their audience:

- the physics and metaphysics of magic
- the biophysics of human movement and motor skills
- the psychology of human perception and deception
- the practical skills to build the props
- the communication skills to communicate with the audience

Therefore, before we embark on our quest for the perfect training act, we have to start with a review of the foundations of our craft.

The basis of instructional design

Good instructional design is dependent upon:

- the benchmarks and learning outcomes
- the characteristics of the learner group
- the TNA authorised by the client
- the application of learning theory that best meets the all of the above

We need to start with the adult learners themselves.

Then we can consider how best to match their needs with an instructional design that takes into account learning styles, principles and theory:

There are four basic characteristics of adult learners (PART):

Pragmatist: who requires the learning to be practical and relevant

Activist: who learns best by doing something

Reflector: who likes to think about what they are doing in order to improve their skills

Theorist: who likes to know the theory behind everything so they can see why they should do something a certain way

These are often also described in eight differentiated categories as developed by Dr Richard Felder and Barbara Soloman:

Visual: people who like to watch, copy and repeat what you do

Auditory: people who like to listen and remember spoken words easily

Kinaesthetic: people who like to learn by doing something

Reflective: People who like to think about something before they do it

Sensing: People who like learning facts and following set guidelines

Intuitive: They like solving problems, ‘get it’ quickly and hate work that is repetitive

Sequential: People who like to work step-by-step

Global: People who learn in jumps and starts and then say ‘now I get it’

When you design ways of profile the learner, you also need to gather sufficient information about individual needs to make adjustments to program design or learning and assessment materials.

- learning styles
- language, literacy and numeracy levels
- English language proficiency
- special needs: disabilities, hearing or visual impairment, intellectual ability levels

Topic Two: Establishing the benchmarks

Starting at the end to develop good beginnings

It might seem strange that in design we start with the benchmarks for assessment when the logical sequence appears to be:

- plan the content for delivery
- deliver the program
- assess the learner
- review the program

In vocational training we use the following sequence for design and delivery:

- establish the benchmarks (the standards to be assessed plus the requirements of the job or industry)
- plan the assessment events against the benchmarks
- develop the assessment tools
- plan the pathways and content of the program that will prepare the learner for assessment
- deliver the learning sequence(s)
- assess the skills attainment
- review the program

After all:

If you don't know where you are going you will never get there!

The basis of competency demonstration

Thousands of words have been written giving you the theoretical basis of what competency is and how to judge it.

When all is said and done, it boils down to 15 Magic Words:

*"What do **they** have to **do** to **prove** to me that they **can do it'***

In other words, it is:

- learner-based
- action based
- evidence based

Training needs analysis in a nutshell

Conducting a Training Needs Analysis (TNA) is not difficult or very onerous. If you are working in training, presumably this is because you have good people skills and are a good listener. This is good, because these are exactly the skills you need to conduct a TNA which is:

45% listening to people

45% knowing your training products really well

5% recording what they want

5% negotiating what they really need

TNA will involve you with discussing wants and needs with three types of client:

Corporate

Individuals

Training organisation

Basically, they all will want the same skills and service from you and you will follow a similar process for all of them.

Your first step is to clarify what they **want**. This is not always articulated very well by corporate or individual clients. They may not have the factual background or a knowledge of training options. They will simply tell you they want something like ‘customer service’ or ‘occupational health and safety’. It is your job to determine which of your available products will suit their **needs** best and offer them training options that fit in with their time and budget constraints.

In order to meet their needs you have to:

- listen to them and ask them clarifying questions about their goals and objectives
- develop and present a good working knowledge of what is required for their needs
- research the available options so you can offer them a ‘best fit’ solution
- document their requirements in detailed notes, checklists or meeting outcomes
- involve them every step of the way as you research ways of meeting their needs
- allow them to view and comment on drafts of all proposals
- give them options and the right information to make an informed choice
- have all stakeholders validate and approve of strategies and plans

Where you will find information on job roles or corporate requirements:

Duty statements

HR records

Safety records

Corporate objectives

Interviews with staff and managers

Skills audits

The process of TNA is very simple.

Step One: Form a clear picture of your client profile.

Who are they and what are their characteristics?

What are their stated training needs (which may not be the same as their actual training needs)

How many individuals will go through the training and what are their goals?

What are their expectations in terms of cost-benefits of training?

What is their motivation to undertake training?

What key information already exists?

Step Two: Research their needs.

What does the work role demand?

What skills do the target market already possess?

What need is there for ‘gap training’?

Do they have any personal development needs to overcome barriers to learning?

Do they have special needs or have to meet special safety and regulatory requirements?

What can your own knowledge and industry experience add to their input?

What industry or training information can value-add to your project?

Whom can you consult to obtain a ‘Big Picture’ framework?

What is the best cost-benefit solution to match their needs?

Step Three: Document the project proposals and ratify this with the client.

Decide on the most appropriate method of presenting the proposal:
Training Plan; Project Plan; Delivery and Assessment Strategy Outline?

Take the draft plan back to the stakeholders for review and comment

Incorporate any changes required or provide rationale for keeping to the proposal

Step Four: Implement and monitor the plan.

Develop the delivery and assessment plans

Source or develop the learning materials and validate these with stakeholders

Conduct the training and assessment

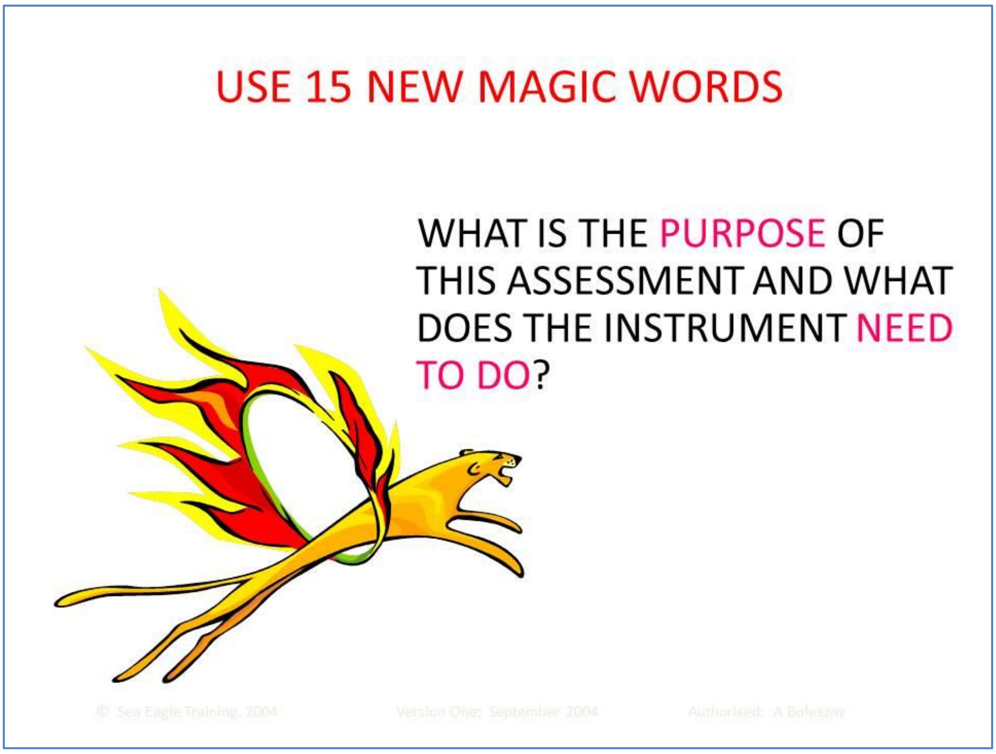
Get feedback from participants and stakeholders

Review the conduct of the training and assessment

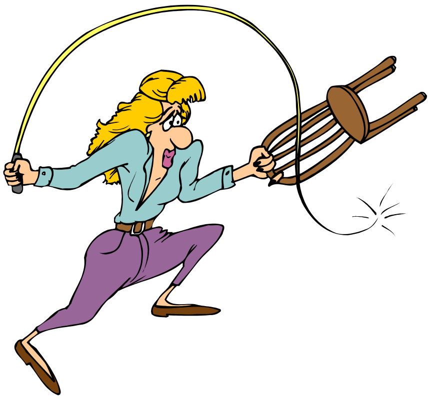
Report back to stakeholders

Make adjustments if required for future proposals

Topic Three: Establishing assessment methodologies



What you must know!



The forms of assessment:

- formative
- summative
- diagnostic

The principles of assessment:

Valid

Reliable

Flexible

Fair

The forms evidence:

- direct
- indirect
- supplementary

The rules of evidence:

Valid

Sufficient

Current

Authentic

Not just what they are!

What they mean

How they are applied

How they are validated

Imagine

Above all you need to use your knowledge of what people actually do on the job to design assessments that reflect real-work, real-time.

Use your imagination and show some innovation to replicate off-job the tasks that they would do on-job e.g.

I they have to manage risks, have them complete a risk analysis using a range of standard tools and develop a risk register.

If they have to develop a business or market plan have them research and write a Situational Analysis, including the 5Cs and PEST analysis.

If they have to know what legislation and regulations apply to their job, have them research what they have to comply with and fill out a template saying exactly how each affects their job role.

If they are to manage meetings have them develop guidelines for committee members and administrative staff and actually chair a few meetings using those guidelines.

It really is not that hard to come up with assessments that prove that a candidate can do the tasks set out in the performance criteria.

The next step: exploring methodologies

First, you have to decide which of the three main assessment processes applies to the purpose of the assessment:

Formative (progress) assessments: designed to test out progress and provide a yardstick for feedback and skills improvement.

Summative (final) assessments: in order to sign off the attainment of competence.

Diagnostic (special needs) assessments, which are related to a specific purpose.

Language, Literacy and Numeracy (LLN) levels

English language proficiency tests for international students (IELTS)

Skills audits

RPL and RCC

The **context of the assessment** is also an important consideration in allocating methodologies: Where is the assessment to take place?

Off the job in a training room?

Off the job in flexible or online learning at home or work?

On-the job in demonstration of real-time work skills?

All of these things directly affect the type of assessment method you choose and how you choose to apply it.

Next you look at what **type of assessment method** you will require, and this will depend upon what you are looking to assess:

Retention of essential knowledge?

Understanding (comprehension questions)?

Ability to apply knowledge to different contexts and contingencies?

Problem solving?

Skills demonstration?

Time series behavioural studies or skills demonstrations?

Self-assessed by the candidate?

Your clues are in the verbs used in the benchmarks, such as:

Saying/thinking words: identify, list, state, outline = written or verbal Q&A

Doing words: demonstrate, identify and select; use = practical demonstration

Organisational words: plan, apply, follow, comply = complex work based tasks

This means that when you read your competency standards, modules or learning outcomes you need to pay special attention to the terminology.

Most people who fail examinations do so because they fail to read and interpret the questions accurately.

The same principle relates to people who develop invalid or inappropriate assessments.

The language and syntax of training has to be learned and understood in order for you to be an effective instructional designer.

The pros and cons of common choices

How you gather your evidence, and the tools you will use, is a matter of personal choice:

- your individual training style
- the needs of the workplace and candidate
- whether you are using and adapting off-the-peg or assessment bank tools
- whether you are developing the program with a free hand or not
- your personal expertise and experience in writing and using assessment tools

If you are a novice assessor, you might find yourself looking at using the tools other people have developed in the first instance. Unfamiliarity with assessment methodologies and lack of experience in developing and using assessments make many new assessors nervous.

You might also tend to favour some of the methodologies you have encountered in your own previous education and training experiences. There can be risks in both using the tools developed by others and following past examples. These may be unsuitable because they might:

- not be valid for your purpose, content and context
- reflect 'institutionalised academic' rather than the 'flexible dynamic' methods of the VET system
- limit you to the creative possibilities that are available for developing creative, realistic and holistic assessment methodologies and tools

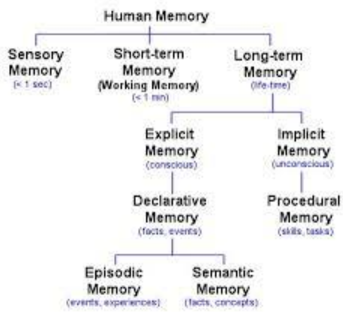
In making your choice, you need to consider the advantages and features of common methodologies. Here are some of the most common methodologies.

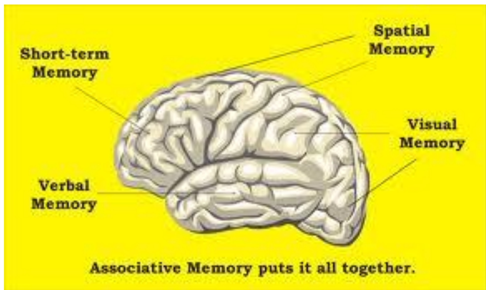
Exams	This is most often used where the student is required to demonstrate competence in a knowledge component of a Unit. Use with caution, it will generally only tell you what a student has memorised (the night before), unless you are able to write assessment instruments that demand application of learned knowledge to different contexts and scenarios. Consider using open-book examinations where they get a problem to solve and have to research potential solutions. The desired result may be achieved by the application of the 'right problem solving methodology' which will produce a range of options from which to make an informed decision.
Short-answer tests	Heavily favoured by assessors because they are: easy to write, can be marked against a template and are useful for gathering evidence from people with limited LLN skills. Contrary to popular opinion, they are quite difficult to write well. It is often possible for the candidate to guess the answer from the context of the sentence or statement. They often constitute 'leading questions' which will guide the candidate to making a right answer, which might not occur in other forms of testing. If you must use short answer tests, combine or alternate them with comprehension questions or questions which ask the candidate to apply the knowledge in different contexts.

Comprehension questions	This is a good way to help fix vital information in the minds of learners, because it demands that they **do something** with that information. A workbook is an example of this method in action, because many of the formative assessments can be designed to assess understanding of the facts presented through answering questions, analysing case studies or reflecting on own work practices.
Projects	Workplace projects and research projects are a valid way to simulate or record on-job tasks for assessment purposes. Any activity that replaces passive learning with active learning is to be preferred
Competency conversations	This is a very useful alternative to written assignments, particularly when assessing competencies with a workforce profile where low literacy skills might be prevalent. An interview checklist should be established to structure the interview to ensure that all relevant steps of a competency are covered. Most interviews can be integrated with the checklist for testing practical work.
Work demonstrations	You cannot get more direct or immediate than this and it is the preferable method of assessing practical competencies, whether in the workplace or in a simulated environment.
Third party reports	These are useful for gathering evidence in scenarios where it is not always possible to do a ‘real-life’ or simulated assessment activity. This allows you to validate the ability of the candidate in a wider range scenarios, particularly in interpersonal communication or dealing with difficult situations. Third party reports are also very useful in confirming that a candidate has used particular equipment or work practices that might be more specialist than the more generic skills covered in the learning program or in off-job training.
Work portfolios	This is an evidence gathering methodology that combines a number of evidence types based on proven work track records. While this is the commonly known method of gathering evidence in recognition assessments, it is not confined to this type of assessment. It is a useful way of tracking the application of skills on-the-job and can replace simulations.
Case studies	These are particularly useful for developing and assessing skills in scenarios that are difficult to replicate in a training environment. Whether paper-based, role plays or group exercises, they are excellent ways of working with communication and problem solving skills.
Case supervision	In job-roles where the learner is dealing with clients, they can be given opportunities to discuss more complex scenarios and explain the approaches they used to provide the service. This is extremely useful in ‘people skills’ job roles.
Learning journals	These are particularly useful in job roles where the learner is required to develop people skills or skills that require problem solving and reflection. Keeping a journal of how they dealt with daily events and how they made quality improvements provides for time-series tracking.

Memory and its role in assessment

The types of memory: Sensory memory Short-term Long term	Which place the memory is in will directly affect testing results. Sensory memory only holds information for a few seconds, after which is it discarded or passed to short-term memory. Short-term memory generally holds information for 24-48 hours unless an event occurs to flag it as important. Revisiting facts and events a 30 day period increases the likelihood of information being stored in long term memory. Information flagged as important then moves to long term memory but it can take as much as six months for the full process of memory storage to be worked through.
The process of memory: Encoding: receiving, processing and combining Storage Retrieval	Every piece of information we receive is assessed by the brain and anything judged not important is discarded, either from sensory or short-term memory. The brain then ‘catalogues’ those things that it considers important and stores it ready for recall in long-term memory. It is a bit like a store room. Things used often are kept dusted off and to the front. Other things still useful but used less often go to the back. Sometimes it takes a few moments to recall things
The operation of memory: Declarative Procedural	Declarative memory takes a conscious act in order to recall the information, a bit like googling for an answer. Procedural or muscle memory does not recall a conscious thought. Things like writing your name or touch typing are all learned skills that are instantly ready to use when someone picks up a pen or puts their hands on a keyboard.
Equilibration	The operation of associative memory that puts it all together, a bit like a database in which key words can trigger a retrieval event.





Learning processes and information retention

When we deliver training, we need our learners to store and manipulate essential knowledge and retain how to perform specific tasks and skills.

We can aid them to learn better and faster by using simple techniques:

- sum up the learning in the last 15 minutes of each session
- no session to run more than 45 without a break to give brain time to process
- revisit information or practice skill within 24 hours and not more than 48 hours
- revisit information or practice skill again within 30 days

The optimal time to test for retention of information is to conduct the test 6 months after the initial session and without prior warning. Alas, we are not able to do this in VET assessment without risking calls of foul play.

Therefore by announcing that there will be a test and the content thereof, we are back to testing candidates’ short-term memory after they cram, which defeats the purpose.