

Train-the-Trainer Curriculum

Intellectual Output 6





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Introducing the SYNERGY Train the Trainer Curriculum

The SYNERGY Train the Trainer Curriculum has been designed to support the progression of VET professionals who work in the traditional VET setting to become competent e-tutors who can accurately and competently respond to the needs of micro-enterprises through the design, development and delivery of a suite of mini-learning resources. It is a key intellectual output (IO06) of the SYNERGY Project: Harnessing the Learning Assets within the SME Business Community funded by the Irish National Agency, Leargas through the Erasmus+ Programme.

Recommended: It is recommended that the Curriculum is used in conjunction with the In-service Tutor Manual (IO09) and In-service Learner Workbook (IO10); created as open educational resources for the VET community and available for free use and download from www.projectsynergy.eu.

Curriculum Aims and Objectives

- Promote the exchange of good practice in designing training courses and learning resources for business
- Deepen understanding and improve ability to apply pedagogical frameworks in the context of e-learning
- Create, nurture and grow a peer to peer teaching and learning community
- Provide an opportunity for participants to design and develop their own SYNERGY mini-learning training course
- Promote creativity and innovation in training design and delivery

As a learner you will develop the technical skills and expertise you need to facilitate your progression towards e-tutoring; to enhance your knowledge and understanding of e-didactics and to be able to use software and equipment available to produce a series of short media-rich learning resources for the SME business community.

This programme offers learners the opportunity to attain accreditation at QQI (Quality Qualifications Ireland) Level 6 by successfully completing the assessments for module 6N3326: 'Training Delivery and Evaluation'.

The SYNERGY Train the Trainer curriculum consists of 4 units with the following learning outcomes:

Unit 1: E-learning and Adult Learning Theory

By the end of the unit, the participants will be able to:

1. Define and understand the concepts of e-learning and micro-learning.
2. Understand the unique features of e-learning and micro-learning.



3. Understand the advantages and disadvantages of e-learning.
4. Identify the characteristics of micro-learning.
5. Develop a session plan for a mini-learning resource.
6. Understand the Blended Learning Framework.
7. Understand the Communication Process.
8. Understand the Four-Side Model of Communication.
9. Identify the three basic principles of adult learning.
10. Identify the characteristics of adult learning.
11. Apply adult learning theory to e-learning.
12. Identify the five major factors in retaining and recalling knowledge.
13. Understand and apply Knowles' Theory of Adult Learning.
14. Understand and apply Kolb's Experiential Learning Cycle.
15. Understand and apply the VARK theory of learning styles.

Unit 2: Training Needs Analysis

By the end of the unit, the participants will be able to:

1. Define and understand a Training Needs Analysis (TNA).
2. Undertake an e-learning needs analysis.
3. Identify the different types of needs assessment, i.e. Needs, Audience, Task, Instructional, Environmental and Technical Analysis.
4. Apply the principles of Training Needs Analysis to an online audience.
5. Complete the SYNERGY Exchange Screen Plan template based on their TNA.

Unit 3: Systematic Training and Instructional Systems – Design and Development

By the end of the unit, the participants will be able to:

1. Understand systematic training and the dominant concepts which underlie it.
2. Define and understand the instructional design models, namely, the Dick & Carry Model and the ADDIE Model.
3. Apply the structure of both models to the design of e-learning and micro-learning training programmes and resources.
4. Identify the key stages in lesson planning and course development.
5. Complete a lesson plan for a mini-learning resource.

Unit 4: Evaluation and Assessment Techniques

By the end of the unit, the participants will be able to:

1. Understand the main purposes of systemic evaluation



2. Identify and implement the Four-Level Model of Evaluation
3. Implement evaluation procedures to evaluate learners at the Reaction, Learning and Behaviour Level.
4. Define Diagnostic, Formative and Summative Assessment.
5. Select and implement appropriate evaluation and assessment techniques for their mini-learning resources.



Unit One: E-Learning and Adult Learning Theory



1.1 Introduction

The principles of adult learning are the keystone of any effort to provide training to service providers. Training courses must provide experiential learning, which will be applicable to participants in performing their jobs, in this case as VET tutors. This unit introduces adult learning theory, with a specific emphasis on applying adult learning theory to e-learning and micro-learning techniques and technologies.

1.2 Specific Learning Objectives

By the end of the unit, the participants will be able to:

16. Define and understand the concepts of e-learning and micro-learning.
17. Understand the unique features of e-learning and micro-learning.
18. Understand the advantages and disadvantages of e-learning.
19. Identify the characteristics of micro-learning.
20. Develop a session plan for a mini-learning resource.
21. Understand the Blended Learning Framework.
22. Understand the Communication Process.
23. Understand the Four-Side Model of Communication.
24. Identify the three basic principles of adult learning.
25. Identify the characteristics of adult learning.
26. Apply adult learning theory to e-learning.
27. Identify the five major factors in retaining and recalling knowledge.
28. Understand and apply Knowles' Theory of Adult Learning.
29. Understand and apply Kolb's Experiential Learning Cycle.

1.3 Core concepts of E-learning

There are many different definitions for the term 'e-learning', however, for the purposes of SYNERGY we can define it as learning facilitated and supported through the use of information and communications technology. E-learning therefore essentially covers the use of computers and technology as a vehicle for knowledge exchange within teaching and learning.

Like no other training form, e-learning promises to provide a single experience that accommodates the three distinct learning styles of auditory learners, visual learners, and kinesthetic learners. Other unique opportunities created by the advent and development of e-learning are more efficient training of a globally dispersed audience; and reduced publishing and distribution costs as web-based training becomes a standard. E-learning also offers individualised instruction that can target specific needs of the learner.



E-learning offers many advantages to the learner such as its on-demand availability; it provides for self-paced learning; facilitates interactivity as it engages users, pushing them rather than pulling them through training and can boost confidence in that refresher or quick reference materials are available reducing the burden of responsibility of mastery.

1.4 Micro-learning

Micro-learning is learning in small segments. It is made possible with the aid of discreet, well planned, bite-sized chunks of activities that are short-term, digestible and easily manageable. The learners are in control of what and when they are learning. The characteristics of micro-learning tend to be five to 15 minutes long; highly targeted covering single objectives, self-contained offering small segments of information; responsive across a range of devices, easy to find and multimedia in nature.

Micro-learning training resources are designed for professionals and business owners who want to add knowledge and skills in brief time-bound sessions. The online courses (mini-learning resources) developed as part of the SYNERGY project are effective examples of micro-learning supporting business owners and VET professionals to gain important, timely topics in small portions. Micro-learning training resources are very practical and relevant in nature to be responsive to the current challenges and issues facing learners, business owners and training professionals. They respond to the growing need to match in-demand relevant learning with an availability of time on behalf of the learner. Micro-learning training resources are not intended to replace more formal vocational training instead they often feature mastery topics intended to address special areas of knowledge. Examples of micro-learning resources include: SYNERGY Exchange platform; Ted Talks; YOUTUBE; Podcasts, Screencast and Webinars.

Some of the benefits of Micro-learning can include:

- Bite-sized learning results in better learner engagement
- Learning can be processed effectively
- Short learning modules help provide effective just-in-time support
- More flexibility to deliver personalised learning
- E-learning developers can repurpose and reuse bite sized modules.

1.5 Blended Learning Framework

Blended learning is the combination of different training media i.e. technologies, activities and types of events to create an optimum training programme for a specific audience. This learning can be a mixture of both face-to-face learning and e-learning. In an online classroom environment many of the learning activities and expectations are similar to those found in a traditional classroom. These learning environments offer meaningful interactions in a face-to-face setting and are most commonly referred to as synchronous learning activities (Hrastinski, 2008; Harris et al., 2009; Simonson et al., 2012). Lectures,



discussions, and lesson presentations occur at a specific point in time with the expectation that all learners will be available to participate. Synchronous learning environments support learning and teaching and offer learners and tutors with multiple ways of interacting, sharing, and the ability to collaborate and ask questions in real-time through synchronous learning technologies. Examples of synchronous online technology types include videoconferencing, webcasts, interactive learning models, and telephone conferences.

In an asynchronous learning environment learners are able to actively participate in their own learning, giving them the opportunity to interact with their peers, provide peer feedback, and reflect on the status of their personal learning goals and outcomes. In many learning environments there are learning activities and expectations that require students to create, synthesize, explain, and apply the content or skills being taught (Harris, Mishra, & Koehler, 2009). Asynchronous technologies support learning and allow more time for student reflection, collaboration, and student-to-student interactions.

According to Meloni (2010) asynchronous communication and learning is by far the more popular learning type because many of the learning tools are free, require minimal hardware, and are used at the learner's pace. Just as with synchronous learning, the growing increase in IT and online connections has expanded the online learning opportunities available. A number of educational benefits can be observed from the use of asynchronous technologies in an online learning environment including enriched student products and portfolios, student and teacher collaboration, and learner specific pacing geared to the individual student needs.

Running through both of these there is the concept of Social learning. Social learning offers opportunities for individual and group integrations and the sharing of learning. Social learning is important for learners who engage in self-managed learning as it offers an outlet to share their opinions and views on the learning incident they have engaged in. Social learning can take place on various social media platforms e.g. Facebook, Twitter, WhatsApp.

1.6 Communication Skills

Communication is an ever present feature of human interaction. The five axioms of communication, formulated by Paul Watzlawick and his colleagues help to describe the processes of communication that take place during interaction and help to explain how a misunderstanding may come about. Watzlawick defines five basic axioms in his theory on communication that are necessary to have a functioning communication between two individuals. If one of these axioms is somehow disturbed, communication might fail.

1. **One Cannot Not Communicate:** Every behaviour is a kind of communication. Because behaviour does not have a counterpart (there is no anti-behaviour), it is not possible not to communicate.

2. **Every communication has a content and relationship aspect such that the latter classifies the former and is therefore a metacommunication:** This means that all communication includes, apart from the plain meaning of words, more information - information on how the talker wants to be understood and how he himself sees his relation to the receiver of information.
3. **The nature of a relationship is dependent on the punctuation of the partners communication procedures:** Both the talker and the receiver of information structure the communication flow differently and therefore interpret their own behaviour during communicating as merely a reaction on the other's behaviour (i.e. every partner thinks the other one is the cause of a specific behaviour). Human communication cannot be dissolved into plain causation and reaction strings, communication rather appears to be cyclic.
4. **Human communication involves both digital and analog modalities:** Communication does not involve the merely spoken words (digital communication), but non-verbal and analog-verbal communication as well.
5. **Inter-human communication procedures are either symmetric or complementary;** this axiom focuses on metacommunication with two main components called symmetrical interchange and complementary interchange. Symmetrical interchange is an interaction based on equal power between communicators. In accordance to that, complementary interchange is an interaction based on differences in power.

Within these two interchanges there are three different ways they can be used: one-up, one-down, and one-across. With a one-up communication, one communicator attempts to gain control of an exchange by dominating the overall communication. A one-down communication has the opposite effect. A communicator attempts to yield control of an interaction or submit to someone. The final message is a one-across communication. This communication moves to neutralise a situation. This is also called transitory if only one communicator is attempting this style. When two communicators use the same style of one-up, one-down, or one-across, it is symmetrical. If they are opposing one another it is complementary. This axiom allows us to understand how an interaction can be perceived by the styles a communicator is using.

1.7 The Communication Process

The communication process is a multi-layered activity that involves taking account of personal communication styles of verbal and non-verbal communication. In a training context, your success as a trainer will depend on your communication skills. At its basic level, communication is the transmission of information from one person to another. It has been defined as 'the process by which ideas,



information, opinions, attitudes and feelings are conveyed from one person to another' (McClave 1997). Thompson (2003) suggests that communication is social in nature and involves the meanings and interpretation that individuals give to messages. Lustig and Koester (2003) define communication as a 'symbolic, interpretative, transactional, contextual process in which people create shared meanings.'

From these definitions you can see that communication is an interactive and social process which occurs at many levels. When people communicate, they exchange information, but each person may interpret the information differently. Context plays a central part in communication. In short, communication is a complex transactional process that uses symbols such as language, words and actions to convey information and that is influenced by the context in which the communication takes place.

There are three key characteristics that can be taken from these definitions of communication. Communication is:

- Transactional: involves two-way interaction between individuals as they carry on the communication between them.
- Symbolic: uses symbols such as language, words, signs, actions and objects to convey messages and information.
- Contextual: takes account of the setting, situation and people in which communication interaction takes place.

The communication process has six core elements:

1. The Sender is the person who initiates the communication; the sender creates and transmits the message. In the training context the sender may be either the trainer or the learner.
2. The Message is the content of the communication. Training content information forms the central message of communication within a training context.
3. The Medium: This refers to the way in which information is conveyed. For example, during training, media such as verbal presentations and visual presentations are typically used.
4. The Receiver is the person with whom the sender is communicating; the receiver receives the message and interprets it to create meaning. In transactional communication, the sender and the receiver constantly change roles.
5. Feedback includes the response received from the receiver of the message. Feedback incorporates messages that inform the sender as to how the people who received the message understood and interpreted it. Ongoing feedback and the creation of new messages form the key elements of transactional communication.
6. 'Noise' is everything that interferes with the communication process, and makes it hard to hear or understand. In the training context, 'noise' is anything that interferes with or distorts content information and messages. Noise includes environmental noise, language differences, cultural



differences, stress, tiredness, disabilities and any distractions that impede effective communication of information.

1.8 The Four Sides Model of Communication

The four-side model (also known as communication square or four-ear model) is a communication model by Friedmann Schulz von Thun. According to this model every message has four facets though not the same emphasis might be put on each. The four sides of the message are fact, self-revealing, relationship, and appeal.

The four sides of communication:

- The *matter layer* contains statements which are matter of fact like data and facts, which are part of the news.
- In the *self-revealing* or self-disclosure the speaker - conscious or not intended - tells something about himself, his motives, values, emotions etc.
- In the *Relationship-layer* expresses how the sender gets along with the receiver and what he thinks of him.
- The *Appeal* contains the desire, advice, instruction and effects that the speaker is seeking for.

Every layer can be misunderstood individually. The classic example of Schulz von Thun is the front-seat passenger which tells the driver: "Hey, the traffic lights are green". The driver will understand something different regarding to the ear with which he will hear and will react differently. (On the matter layer he will understand the "fact" "*the traffic lights are green*", he could also understand it as "*Come on, drive!*"- "command", or on the "relationship" could hear a help like "*I want to help you* or if you hear behind it: "*I am in a hurry* it reveals part of yourself "self-revelatory".") The emphasis on the four layers can be meant differently and also be understood differently. So the sender can stress the appeal of the statement and the receiver can mainly receive the relationship part of the message. This is one of the main reasons for misunderstandings.

1.9. Adult Learning Theory and e-learning

There is no single theory of learning that can be applied to all adults. Indeed, the literature of the past century has yielded a variety of models, sets of assumptions and principles, theories, and explanations that make up the adult learning knowledge base. The more familiar we are with this knowledge base, the more effective teaching practice can be, and the more responsive it can be to the needs of adult learners. In attempting to document differences between the ways adults and children learn, Malcolm Knowles (1980) popularised the concept of andragogy ("the art and science of helping adults learn"), contrasting it with pedagogy ("the art and science of teaching children"). He advanced a set of assumptions about adult learners, stating that they tended to be:

- Autonomous and self-directed
- Accumulated a foundation of experiences and knowledge
- Goal oriented
- Relevancy oriented
- Practical
- Need to be shown respect

Knowles postulated that there are five assumptions concerning the characteristics of adult learners, and four principles concerning adult learning (andragogy). Despite the fact that Knowles' adult learning theory assumptions and principles were introduced in the 1980's, each can be utilised today to help e-learning professionals create more meaningful learning experiences for adult learners.

1.9.1 Applying Knowles' 5 Adult Learning Theory Assumptions to E-Learning

1. Assumption 1 (Self-Concept)

Create learning experiences that offer minimum instruction and maximum autonomy.

A major aspect of designing e-learning courses is having an e-learning support system to offer guidance and help, while still providing the e-learning tools and resources learners need to learn on their own terms. Adult learners acquire new information and build upon existing knowledge much more effectively if they are encouraged to explore a topic on their own. While younger learners might need to be guided through the learning process, mature learners will typically get more out of the experience if they are able to work autonomously.

This might come in the form of self-study or group collaboration projects that involve minimal instructor intervention. E-learning professionals can also offer simulations, scenarios, or games without prefacing them with any information. As such, the adult learners will have to explore the activity on their own, and decide which benefits and information they can take away from the e-learning experience. With that being said, you will need to have an e-learning support system in place if they need to ask questions or to overcome any obstacles that may be hindering the learning process.

2. Assumption 2 (Adult Learner Experience)

Include a wide range of instructional design models and theories to appeal to varied experience levels and backgrounds.

Adult learners are more mature. Therefore, they have had more time to cultivate life experience and typically have a wider knowledge base. That means that tutors must take into account that the learning



audience is going to be more diverse, especially in terms of backgrounds, experience levels, and skill sets. While one adult learner may be well versed on how to search for resources online, another may have very little experience using the Internet. All of this must be considered when designing and developing your e-learning courses and activities.

To appeal to different learners, it is often best to include a variety of different instructional design models and theories into your online course or mini-module. Survey your audience beforehand to determine any technical knowledge limitations they may have, as well as to assess their education levels. By doing this, it is possible to create e-learning experiences that are informative and engaging, rather than too challenging or boring.

3. Assumption 3 (Readiness to Learn)

Utilise social media and online collaboration tools to tie learning to social development.

As we get older, we tend to gravitate more towards learning experiences that offer some sort of social development benefit. For example, we are often more ready to challenge ourselves with new learning opportunities if we know it will help us to fine tune skills that pertain to our social roles. From an e-learning professional point of view, social media and online collaboration tools can help to incorporate this assumption into the courseware. Create activities that encourage adult learners to use sites like LinkedIn and Google Plus as invaluable tools. This can help them to not only build their social network, but collaborate with those who share the same interests.

4. Assumption 4 (Orientation to Learning)

Emphasise how the subject matter is going to solve problems that an adult learner regularly encounters.

Adult learners, essentially, need to know the why and when before they actively engage in the learning process. For example, they will not only want to know why they need to acquire specific information, but whether or not that information can be applied in the immediate future. Younger learners accept the fact that the knowledge they are acquiring today may not be used for quite some time.

However, mature learners prefer to engage in learning experiences that help them to solve problems they encounter on a regular basis. Training content should focus on solving problems by offering real world examples and scenarios.

5. Assumption 5 (Motivation to Learn)

There must be a valid reason behind every e-learning course, module or educational activity.



Motivation is essential with adult learners. As such, training content must motivate them to learn by offering a reason for every e-learning activity, assessment, or module they will need to complete. E-learning professionals must explain why a particular course is being taught and why an adult learner must participate in a learning activity, in order for the overall e-learning experience to be meaningful and engaging.

Applying Knowles' 4 Adult Learning Theory Principles to E-learning

1. *Adults must have a hand in the design and development of their learning experience.*

While, both adult and younger online learners must feel as though they are playing an active role in their own learning experience, for adult learners this is particularly important. They must truly be an integral part of the development and implementation of the curriculum, as well as of the evaluation process. Getting feedback from adult learners allows you to achieve this, as it offers you the opportunity to design learning materials, exams, and activities based upon the needs and wants of the adult learners.

2. *Experience should be at the root of all eLearning tasks and activities*

What matters most in regards to adult education is not the end result, but the learning experience that is gathered through instruction and activities. Rather than offering memorisation tasks, create projects and exercises that encourage adult learners to go out and explore the subject matter, thereby gaining experience. By doing this, adult learners can learn from their errors and master their skills sets through first-hand experience. Adult learners can take on their own approach when solving problems, which will give them the chance to use their knowledge in a practical way. There will be trial-and-error involved, which is what makes the overall eLearning experience more meaningful and effective.

3. *Real life applications and benefits must be tied to the eLearning course.*

Adult learners need to be able to tie the subject matter to real world benefits and applications. If they cannot see how a module or activity will give them an advantage in real life, or how a particular e-learning course is going to apply to real world situations, then they will not be excited about the process. E-learning professionals can increase engagement by integrating scenarios into adult e-learning courses. This way, adult learners have the opportunity to directly see how what they are learning can be used in the real world.

4. *Give adult learners the opportunity to absorb information, rather than memorising it.*

The content being offered in e-learning courses should be problem-centred, as learners' will want to immediately see how the instructions will help them to solve an issue they might encounter outside of the learning environment. This often means that the subject matter should offer them the chance to fine tune skill sets and acquire (and retain) practical knowledge by doing, rather than just memorising.



Create activities that allow learners to delve into specific tasks, such as simulations, that enable them to store the information in their long term memory through repetition and experience.

These adult learning principles and assumptions can be applied to any e-learning deliverable in order to offer learners a wide range of benefits, including improved comprehension of key concepts and a boost in knowledge retention.

1.10 Kolb's Experiential Learning Cycle

Many adults have a poor experience with prior education and learning, often this can lead to a blockage and unwillingness to learn. These blockages to learning could be psychological or physical. A person may have poor learning skills and lack of awareness of how to learn. The inability of the trainer to identify the personal style of the learner can impede on the learning. Therefore the trainer must facilitate the learner's learning style.

Every adult comes to a training situation with a variety of life experiences, some prior education, maybe even formal training, and a trainer needs to adapt and recognise this. David Kolb (1984) suggests that there is a continuous cyclical process associated with learning. Educational theorist David A. Kolb believes "learning is a process whereby knowledge is created through the transformation of experience" (1984, p.38). The theory is formulated presents a cyclical model of learning, consisting of four stages shown below.

An individual may begin at any stage, but must follow each other in the sequence:

- Phase 1: concrete experience (or "DO")
- Phase 2: reflective observation (or "OBSERVE")
- Phase 3: abstract conceptualisation (or "THINK")
- Phase 4: active experimentation (or "PLAN")

Kolb's four-stage learning cycle demonstrates how experience is translated through reflection into concepts, which in turn are used as guides for active experimentation and the choice of new experiences. The first phase the concrete experience phase, is where the learner actively experiences an activity.

The second phase, reflective observation, is when the learner consciously reflects back on that experience to determine if it fits with their previous knowledge or memories.

The third phase, abstract conceptualisation, is where the learner attempts to conceptualise a theory or model of what is observed, they formulate their own conclusions and concepts about what they have experienced.



The fourth phase the active experimentation, is where the learner is trying to plan how to test a model or theory, or plan for a forthcoming experience to determine whether their conclusions and theories work.

All stages of this cycle have to be completed before true learning can take place. One of the implications of Kolb's theory is that learning is a continuous process, grounded in experience. All learning is, in a sense, is relearning as we continuously modify our understanding and our expectations.

1.11 Learning Styles

When teaching adults, it is important to acknowledge differences in the way people learn, that is, in the way they process, memorise and internalise information. According to Kolb (1984) we can differentiate between four key learning styles:

1. Dynamic learners: People who are active and very involved, who like to have a go and see if and how things work, who learn through trial and error or self-discovery.
2. Imaginative learners: People who observe and reflect who learn through listening and sharing ideas, who seek meaning and need to be personally involved in order to learn.
3. Analytic learners: People who are rather theorists, who seek facts and want to understand the underlying factors and links, who learn by thinking through ideas
4. Common sense learners: People who are rather pragmatic and efficiency oriented, who need to know how things work, who learn by testing theories in sensible ways and applying common sense

1.12 Fleming's VARK theory of learning styles

Another common model for identifying participants learning styles is the VARK model which was designed by Fleming in 2001. The acronym VARK stands for Visual (V), Aural (A), Read/Write (R), and Kinesthetic (K).

Fleming defines learning style as "an individual's characteristics and preferred ways of gathering, organising, and thinking about information. VARK is in the category of instructional preference because it deals with perceptual modes. It is focused on the different ways that we take in and give out information. The only perceptual modes, or senses, it does not address are taste and smell.

According to the VARK theory, learners have preferences in one of the four following learning styles:

VISUAL - learners who would like to see the information presented for them on a whiteboard, flip charts, walls, graphics, pictures, and colour. Learners who prefer visual techniques are usually tend to be more creative and artistic than others.



AUDITORY - learners who would like to sit back and listen. They don't make a lot of notes but rather have a memory that can absorb the information they have heard and learn effectively in doing so. Visual displays are not as important to these learners however they appreciate interesting anecdotes, etc.

READ/WRITE - learners who need to read the information for themselves and they take a lot of notes. Handouts, perhaps done on PowerPoint with room for their own note-taking would complement the learning of these students.

KINESTHETIC - learners who cannot sit still for long, like to fiddle with things. They like to be actively involved in their learning. Field-trips and role-play would suit these learners best as it will keep them actively alert and involved. More subtle class room techniques, for example, flip chart rotation, would also keep the kinesthetic learner interested and involved in the subject. However it is important to monitor the use of theory-based instruction when dealing with this type of learner as often they can become lost in a body of information.

For an effective training programme it is important to apply a methodology and facilitation style that combines different elements in order to cater for the needs of people with different learning styles. Traditionally this would have been done through a mix of methods and components such as lecture parts, use of whiteboards or flipcharts, open discussions, group work, practical exercises, role plays etc. The strength in e-learning is how it caters for three of the four learner styles outlined.



Unit Two: Training Needs Analysis



2.1 Introduction

In the training cycle, the training needs analysis (TNA) is the first step of systematic training. In order to ensure that the mini-learning resources developed and produced by the participants are efficient and effective training resources, it is important that the participants understand how to apply a systematic approach to identifying training needs. This unit will help participants to take the first step in creating their online mini-learning resource: it will help them to figure out what they are creating and who they are creating it for.

2.2 Specific Learning Objectives

By the end of the unit, the participants will be able to:

6. Define and understand a Training Needs Analysis (TNA).
7. Undertake an e-learning needs analysis.
8. Identify the different types of needs assessment, i.e. Needs, Audience, Task, Instructional, Environmental and Technical Analysis.
9. Apply the principles of Training Needs Analysis to an online audience.
10. Complete the SYNERGY Exchange Screen Plan template based on their TNA.

2.3 Training Needs Analysis

Training Needs Analyses helps to identify, assess and compare what the business is currently doing with the knowledge, skills and behaviours needed to enhance its performance. Some of the benefits of conducting training needs analysis include:

- Development of high performance workplaces through engagement and participation.
- Part of succession plan to identify competence, capability and potential of employees
- Determines key performance and business needs to be addressed that will achieve results.
- The development of training strategies appropriate to the company structure, culture and geography of the enterprise in conjunction with effective change management activity to ensure the goals of the training are delivered and achieved
- Demonstrate alignment between the development and HR departments, strategic objectives and operational goal.
- During organisational or role change, training needs analysis plays a major role in identifying competency and behavioural requirements.
- Identification of gaps and/or existing solutions not immediately evident.
- Identification and evaluation of current performance gaps between people, strategy, behaviour and processes.



A TNA is the systematic investigation of training needs within a business. It is part of a process which integrates training with the business or development plans of a company. As high quality, relevant training should be a central purpose of any business, it is essential that sufficient time is allowed for this critical task. It should also be noted that the TNA should be revisited on a regular basis to ensure that training provision remains relevant.

2.4 Prioritising Training Needs

Once the training needs have been identified it is important that they are analysed and prioritised. It may not be possible to deliver all of the identified needs through the training programme. Care should also be taken to ensure that the training plan reflects the priorities of as wide a range of individuals as possible and that one or two individual's needs are not allowed to dominate the plan. The requirement for this prioritisation should be discussed with member individuals during the TNA so that false expectations are not set in relation to all needs necessarily being met.

2.5 Creating an e-learning Needs Analysis

Whether you call it an e-learning needs analysis, a training needs analysis, or a training needs assessment, the objective is the same: to identify whether training needs exist, and what they are. An e-learning needs analysis also answers the important question: is training the right solution for the problem at hand? If it is not, it is essential to know this before commencing your e-learning project, not after finishing it.

Needs assessments come in many shapes and sizes, but they all start with data gathering. A good, basic framework to get the data you need comes from five very familiar prompts: **why**, **who**, **how**, **what**, and **when**. Let's delve deeper into each of these, to illustrate the kind of information you should look for as you investigate.

WHY

Why do you think you need to create training? Dig into the details of the problem or deficiency, and look for evidence within the organisation, in performance metrics, process breakdowns, customer feedback, employee observations, and the like. You should also look for upcoming changes. You will not find evidence, of course, but you will know that if a new policy, process, or technologies are in the works, people are going to need training.

WHO

Take a look at the people or departments involved in the problem or deficiency. Then look for other audiences that might benefit from the training, particularly if there are pending changes. These groups will comprise your target audience. Get to know them, their organisational functions, and how they do their jobs.



How

Brainstorm ways to correct the problem or fill the gap. Can training help, or are there better ways to address the issues? Consider creative options, especially those that make use of resources in place or are less disruptive to ongoing work. Think broadly - this is the time to look at all the different ways to resolve the problem.

WHAT

For this you should look at what employees do in their jobs. What is the best way for them to do their job or tasks? Do employees have the knowledge or skills to perform to the standard? Are there critical hazards employees need to avoid in their jobs? Take a look at policies and standard operating procedures, and find out how employees implement these in their jobs. Feedback from the front lines can help you identify discrepancies and gaps.

WHEN

Training needs to be timed to maximise the number of people who benefit from it and minimise the burden on the organisation's business operations. How you deliver training - whether via online modules employees can complete on their own time, in-classroom training that requires them to gather at a certain time and place, or some other means - will play a role in determining when. For example, if training means pulling people off a production line and into a classroom, perhaps there's a time during the day when production is slowest; people could do their training then. Get a sense of when employees are going to need the training relative to upcoming business operations, as well as when to deliver the training during their day-to-day work.

Next Steps:

Once you have gathered your data, it is time to analyse it. Approach this assessment with an open mind and look where the gaps and problems are, and how you might solve them. Understand employees' current performance relative to requirements or standards they need to meet, and when they should meet them. Rely on your data to point you toward solutions to the problem. This is where you will see whether the problem is training-related or needs other solutions.

If you cannot find a performance gap after all, it may indicate that the desire for training is more of a want than a need. The key is to know that before you create an e-learning programme, not afterward.

The outcome of a thoughtful training needs analysis is a clear picture of the problem, solutions, and whether training will help. If it will, the evidence you discover in your investigation can help justify the cost of training to your business, and serve as a launching point for your e-learning training course.

2.6 Types of Needs Analysis or Assessment

2.6.1 Needs Analysis

There are several types of needs assessments. The most common type is based on the discrepancy model. It assumes that there is a training need and it defines the gap between the current performance of a target audience and the desired performance. At a high level it identifies the knowledge and skills that are missing and might also delineate workplace issues and attitudes that could affect a training initiative.

How to get the information:

- Interviews with stakeholders and managers
- Interviews with target audience members
- Interviews with other relevant staff, e.g., Information Technology and Human Resources
- Provide surveys and questionnaires to the target audience to assess knowledge
- Observation of target audience members performing relevant tasks

2.6.2 Audience Analysis

The goal of an audience analysis is to help designers and developers understand their audience to serve them most effectively. The audience analysis identifies each audience group who will engage in training and the characteristics of each group.

Try to identify the following:

- Demographics (gender, age range)
- Cognitive characteristics (educational level, language, prior knowledge related to subject, computer literacy; learning preference— independent, motivated, requires assistance, etc.)
- Work characteristics (job roles, work responsibilities, work schedule)
- Affective and social characteristics (interests, attitudes and biases, what makes them laugh, what they disdain)
- Any other traits that could influence the strategies and approaches to learning you might use

Although each group is composed of individuals, try to focus on the similarities within each group. After your audience analysis, you may want to see how to create learner personas.

How to get the information:

- Interviews with members of each audience group (individual or as a group)
- Interviews with supervisors of each audience group
- Interviews with Human Resources



- Surveys and questionnaires completed by the audience members
- Research about the field

2.6.3 Task Analysis

The task analysis breaks down all the tasks that are part of a specific job role. It includes: task descriptions, subordinate tasks, importance of tasks, length and frequency of tasks, task difficulty, and equipment required to do the task and the work environment and conditions in which the task is performed.

How to get the information:

- Interviews with those skilled in performing tasks (individually or groups)
- Interviews with their supervisors
- Observation of skilled individuals performing tasks (on site and via video)
- Documentation regarding the job role
- Relevant training materials
- Research about the field

2.6.4 Instructional Analysis

The instructional analysis (or learning task analysis) examines and breaks down the learning tasks of each specific instructional goal. It provides the steps and associated subordinate tasks that are required to reach each goal. The instructional analysis should only include what's really necessary to reach the goal and eliminate the extraneous material.

How to get the information:

- Analysis of the content from relevant training materials, organisational documents
- Interviews with Subject Matter Experts
- Focus groups
- Observation of the skills to be taught

2.6.5 Environment Analysis

The environment analysis identifies the learning environment(s) in which a course will occur. The environment can vary from mobile employees listening to a podcast, to employees in one room watching a synchronous webcast, to virtual employees engaging in an independent learning project.

How to get the information:

- Discussion with project manager and supervisors
- Observe the environment

2.6.6 Technical Analysis

The technical analysis identifies the hardware and software specifications that an online course must accommodate. This includes the type of device on which the course will run, operating system(s), type and availability of Internet access, media capabilities (audio, video, graphics), authoring tools required, and the requirements of learning management system if one is being used.

How to get the information:

- Discussions with IT manager
- Discussions with course Project Manager

2.7 How to effectively analyse your e-learning course audiences

Developing an e-learning course that offers informative, well written content and high quality design elements are essential to any successful e-learning project. However, knowing your audience can make the difference between an effective e-learning course and an e-learning course that falls short of expectations. As such, one of the most invaluable e-learning tasks at your disposal as an Instructional Designer is an e-learning course audience analysis.

Here are the 6 key questions you will have to ask in order to effectively analyse your audience:

1. What is the primary goal or objective of your e-learning audience

Your audience is enrolling in your e-learning course or signing into your training programme for a purpose. In order to develop an e-learning course that will be effective and worthwhile, you must predetermine what its purpose is. Are you designing e-learning courses that are aimed at helping learners to delve into a particular topic? Are you teaching a specific task, such as POS transactions or IT trouble shooting? One of the most important aspects of an audience analysis is recognising what your audience hopes to take away from the experience.

This will allow you to determine not only which content must be included, but also how you are going to present this content in a meaningful and effective way. For example, if the learners hope to learn about customer service basics, you may want to include interactive scenarios that will enable them to carry out real-world simulations before they venture onto the sales floor. So, what are your audiences' expectations, and how can you live up to these particular expectations when designing your e-learning course?

2. **What are your learners' educational background and/or learning abilities?**

Learners carry their own unique cultural and educational background, as well as their own set of learning prerequisites or abilities. Nonetheless, there are probably some aspects of their background



that they have in common. For example, if you are creating an e-learning course that deals with more advanced management strategies, then your target audience is most likely going to already have a basic understanding of human resources and/or personnel development. As such, you will not need to cover these fields in depth in your e-learning course.

You will also want to do some research and determine the educational background of your audience, or the professional training that they have undergone in the past. What is their level of on-the-job experience? Are they literate, and are they familiar with professional jargon? Are they going to be able to comprehend the concepts you are including, or should you be presenting the content in a simpler and straight forward way? Keep in mind that the ultimate goal is to deliver invaluable knowledge that the learner will be able to acquire, retain, and recall. Therefore, you will want to deliver the content in a fashion that appeals to them and motivates them to learn, rather than designing an e-learning course that is too simplistic or too challenging.

3. When and where will the learners be learning?

It is crucial to identify their primary location while taking the e-learning course, so that you can take that into consideration when you design it. To illustrate, will they be in a public place where audio may not be available? Will the e-learning course be offered as on-the-job training, meaning that all of the information should be “bite sized” so that they can complete it during a working day? Determining how the learner will access the information is as essential as pinpointing what content you will include.

4. What information and skill-sets will the learner need to acquire?

One of the most vital elements of analysing e-learning audiences is determining which skill-sets or information must be acquired during the e-learning course. If your e-learning course will be offered as part of a new-hire orientation, you will probably need to include an introduction to company policies and basic job training. Likewise, does the audience need to learn about essential customer service or sales skills? To acquire the information you need, you may even want to learn about their job responsibilities so that you are able to include necessary skill or task-specific development tools in your e-learning course design. If you are not familiar with their professional duties, you may want to speak with someone who is in the field or has recently received training in that niche.

5. What are your audiences’ technical requirements (or limitations)?

When designing your e-learning course, it is also important to think about how the learners will be accessing the content. Are they going to be signing into the e-learning course via a mobile device? Do they have limited access to Internet, in which case they may prefer a CD-based e-learning course? What are their hardware or software limitations? Most importantly, are they tech savvy, or will you need to make the e-learning course more basic in order to provide them with the most benefit?

6. What are your audiences’ learning preferences?



Lastly, but equally important, you may want to consider how your audience learns. Some learners tend to gravitate more towards *scenario-based learning*, while others prefer watching video lectures. Determining the learning preferences of your e-learning course audience is crucial to the overall success of your e-learning course design. It will allow you to custom tailor your modules to meet their needs and appeal to their preferred learning methods, so that they achieve the best possible outcome.



Unit Three: Systematic Training and Instructional Systems - Design and Development

3.1 Introduction

A systematic approach to training provides a robust foundation for activities such as training needs analysis, course design and development, course delivery and course evaluation. It is a process of formal training that focuses on the development of knowledge, skills and attitudes required to perform a specific role or task to a specific standard. This unit focuses on the steps needed for a systematic method of training. In this unit, participants will be introduced to three different instructional design models namely; the Dick & Carry Model, Kemp's Instructional Design model and the ADDIE model. This unit will also look at how e-learning methods can be incorporated within the use of these models.

3.2 Specific Learning Objectives

By the end of the unit, the participants will be able to:

1. Understand systematic training and the dominant concepts which underlie it.
2. Define and understand the instructional design models, namely, the Dick & Carry Model and the ADDIE Model.
3. Apply the structure of both models to the design of e-learning and micro-learning training programmes and resources.
4. Identify the key stages in lesson planning and course development.
5. Complete a lesson plan for a mini-learning resource.

3.3 Systematic Training

Systematic training is a process of formal training that focuses on the development of knowledge, skill and attitudes required to perform a specific role or task to a specific standard. Garavan *et al.* (2003) defines training as a systematic process through which an individual is facilitated to master defined tasks or competences for a definite purpose. The process consists of determining the current state and needs of the learner, defining the end goal of instruction and creating some "intervention" to assist in the transition.

The dominant concepts underlying training are:

- Behaviour changes
- Performance improvement
- Transferability

To enable such changes, training must be systematic and planned so that it meets specific needs. Training must be systematic to successfully achieve desired outcomes.

Systematic training is purposeful, planned, organised, active and results-oriented.

- It is *purposeful*: training has clearly defined aims and learning outcomes.



- It is *planned*: training content is carefully prepared and organized to allow learners achieve defined learning outcomes.
- It is *organised* in a logical manner so that learners gradually build their knowledge and skills as they progress through the training course.
- It is *active*: learners are mentally and physically active participants in the training programme.
- *Results orientated*: training is guided by learning outcomes that focus on what the learners will be able to do at the end of the training.

Instructional systems design (ISD) is considered to be both a science and an art. A science because it is rooted in learning theories and an art because the designing of instructional materials is a highly creative process (Moore, Bates & Grundling, 2002, p.71) ISD synthesises instructional practice, research, and theory into a methodology for learning development that is systematic (inputs produce outputs which, in turn, become inputs) and systemic since the components have a symbiotic relationship (Edmonds, Branch, and Mukherjee, 1994, p.56).

The goal of instructional design is to create successful learning experiences and to engender transfer of training instructors through analysis, design, development, implementation, and evaluation to the goal. The ISD road map (the science) provides a route to many different destinations depending on the turns (the art) one chooses to take. At its most basic level, instructional design focuses on three fundamental concerns: identifying the goals; selecting the strategy; and, evaluating success. (Moore, Bates & Grundling, 2002, p.71).

As a profession, instructional designers continue to adhere to variations of the ADDIE approach despite changes in technology, society, and business. As Hannafin points out, we have re-hosted traditional ISD via computer technology, but have not reassessed the basic foundations or assumptions of our models (1992, p. 50). Reigeluth (1999) maintains that changes to instructional models are driven by changes to the larger systems in which the models operate. The larger systems he calls the instructional system (p. 16) might be a corporate training department, an educational system, etc.

3.4 Instructional Design Models

An instructional design model is a representation of a view on how people learn. It is also the guideline by which an instructional designer creates instruction. Models help us conceptualise a process or system. They simplify the complexities of real situations into sets of generic steps that can be applied in many contexts (Gustafson and Branch, 2002, p. 1).

Many instructional design models, when diagrammed, appear to be linear and rigid. In practice most are iterative, moving backwards and forwards between the activities (Moore, Bates & Grundling, 2002, p.79). Most are also flexible; leaving it to the experienced designer to decide how much detail is

required at each step. Most model creators subscribe to one or more learning theories which shape their model. If the creator is a behaviourist, a cognitivist, or a constructivist the model will reflect that theoretical belief.

3.5 The Dick & Carry Model

The Dick and Carey Systems Approach model was originally published in 1978 by Walter Dick and Lou Carey in their book entitled “The Systematic Design of Instruction”. Dick and Carey made a significant contribution to the instructional design field by championing a systems view of instruction as opposed to viewing instruction as a sum of isolated parts. The model addresses instruction as an entire system, focusing on the interrelationship between context, content, learning and instruction. According to Dick and Carey, ‘Components such as the instructor, learners, materials, instructional activities, delivery system, and learning and performance environments interact with each other and work together to bring about the desired student learning outcomes’. The components of the Systems Approach Model, also known as the Dick and Carey Model, are as follows:

- *Identify Instructional Goal(s)*: goal statement describes a skill, knowledge or attitude that a learner will be expected to acquire.
- *Conduct Instructional Analysis*: Identify what a learner must recall and identify what learner must be able to do to perform particular task.
- *Analyse Learners and Contexts*: Identify general characteristics of the target audience including prior skills, prior experience, and basic demographics; identify characteristics directly related to the skill to be taught; and perform analysis of the performance and learning settings.
- *Write Performance Objectives*: Objectives consists of a description of the behaviour, the condition and criteria. The component of an objective that describes the criteria that will be used to judge the learner's performance.
- *Develop Assessment Instruments*
- *Develop Instructional Strategy*: Pre-instructional activities, content presentation, Learner participation, assessment
- *Develop and Select Instructional Materials*
- *Design and Conduct Formative Evaluation of Instruction*: Designer tries to identify areas of the instructional materials that are in need of improvement.
- *Revise Instruction*: To identify poor test items and to identify poor instruction
- *Design and Conduct Summative Evaluation*

With this model, components are executed iteratively and in parallel rather than linearly.



3.5.1 How to Apply the Dick and Carey Model in E-Learning

In this section, we will talk through every step of the Dick and Carey Model, and explore how you can apply each into your e-learning design.

1. Identify Goals and Objectives

The first step in the Dick and Carey Model is to clarify your goals and objectives. The learner must be aware of what they will be able to do when they complete the e-learning course, including the skills they will develop and the knowledge they will acquire. Make sure that you tie it to real world applications so that they know how the e-learning course can benefit them outside the virtual learning space.

2. Complete instructional Analysis

The next step is determining what your learners already know so that you can figure out how to fill the learning gap. This can be done through e-learning assessments, surveys, and interviews that focus on their current skill sets and knowledge base. For example, if the e-learning assessment reveals that a learner is unable to perform a specific on-the-job task, then you integrate the skills and information they need to master the task.

3. Determine Entry Behaviours and Learner Characteristics

Conduct audience research to determine your learner's behaviours, traits, personal preferences, and motivation factors, such as what has prompted them to enrol. Focus on characteristics that pertain directly to the goals and objectives for your e-learning course. This helps you to narrow down the specific online content that is vital for your e-learning course, rather than covering information that they have already acquired. You can identify all of the ideas and concepts that you should include to provide a comprehensive and personalised e-learning experience.

4. Write performance objectives

In addition to the learning goals, you must also develop performance objectives that clearly describe the task or process that must be mastered, as well as criteria that you are going to gauge learner progress. The performance objectives must also include the specific conditions in which the task or skill will be carried out, such as observing your audience on-the-job or in a particular real-world setting. (Designing objectives will be discussed further later in this unit)

5. Develop Criterion-referenced e-learning assessments

No e-learning strategy is complete without an effective online assessment plan. This involves finding the ideal e-learning assessment type for your learners, such as the multiple-choice questions or interactive scenarios, as well as the grading scheme and criteria. Though formative and/or summative E-learning assessment, you can also determine if the instructional strategy, itself, is effective and reveal the weaknesses and strengths of the online activities and exercises of the e-learning course.



6. Develop the instructional e-learning Strategy

Now that you have completed the research and developed your objectives and goals, it is time to create a sound instructional e-learning strategy for your audience. You should take into consideration the learning theories that are best suited for your subject matter and learner needs, based on which you will develop the e-learning activities that properly convey the desired information to your learners.

7. Choose learning materials and online activities

Select each of the learning materials, tools, and online exercises that serve the learning goals and objectives. This also involves e-learning content creation, such as online tutorials, branching scenarios, and text and multimedia-based instructional aides. You should also consider the preferences of your learners when choosing your online materials, and include a wide range of e-learning activities to appeal to a wider audience.

8. Carry out formative evaluation

This takes place even before you unveil your e-learning course to the public. It often involves focus groups or the release of beta versions that help to iron out any issues prior to e-learning course deployment. If you find any weak areas in the e-learning course, now is the time to fix them and ensure that every element is as effective as possible. This may require a major rewrite of your e-learning content or even revamping your online activities, if necessary. Keep in mind that it is better to remedy the problems now, rather than risking your brand image with a flawed e-learning course later on.

9. Carry out summative evaluation

The last step is assessing whether your e-learning course actually achieves the desired outcome. This can only truly be determined through learner post-assessments, such as tests at the end of the lesson, and performance-based online exams, like observing a learner on-the-job or examining business statistics. An example of this would be to check learner satisfaction scores to discover if e-learning course had the desired effect.

An important part of the process that is often overlooked is taking action once you gather your data. Applying the Dick and Carey Model in e-learning helps you overcome this issue. Keep in mind that your e-learning strategy should be adaptable and evolve with the needs of your learners. If something is not working effectively, then do not hesitate to make changes when necessary. Use these tips to ensure that you cover each step of the instructional design process and formulate a plan that will truly benefit your online learners.

3.6 The ADDIE Systematic Training Model

The model of systematic training which most training programme focus on is the ADDIE model. It is a cyclical process with five major steps:

1. Analyse the need for training through a training needs analysis

2. Design the training based on needs
3. Develop the training content and material based on training needs
4. Implement the planned training
5. Evaluate the outcome of the training

The results of the evaluation process will decide which, if any, elements of training need to be adjusted. This is a critical point, as the re-running of ineffective training will not achieve the desired outcomes.

3.6.1 How to apply the ADDIE framework to e-learning

It is important to remember when designing learning content that learner needs identified through the implementation of a training needs analysis lead the design of the training content and technology then follows. A clear learning outcome needs to be decided upon and this needs to be the centre of the content design while integrating technology. It is often a common error trainers make to allow technology to take over the learning process. The aim is to increase knowledge while also keeping the learner engaged therefore we need to be conscious not to overwhelm the learning with the overuse of media inputs. Each of the models discussed contain the elements required for quality learning be it traditional or e-learning.

3.7 Instructional Design Principles

Regardless of which of the mentioned models you refer to in the creation of your mini-learning resources the following principles should be adhered to as a means of ensuring good quality training content:

- ❖ A strong introduction to the subject matter needs to be delivered
- ❖ Outline of the context of the content and what is in it for the learner
- ❖ Have a clear purpose and objective for the learning content
- ❖ Create a way in which the content will connect with the learner
- ❖ Make it fun, entertaining and reliable
- ❖ Make it simple and straightforward
- ❖ Have an active voice to ensure continued engagement
- ❖ Use animations and visuals as a means of delivery – paint a picture.
- ❖ Also finish with a summary of the content covered.

Later in this unit will look at the development of learning outcomes and lesson plans for the creation on e-learning content.

3.8 Didactical methods - Learning resources

A didactical method is a teaching method which follows an educational style. Modern didactical approaches use and combine different learning resources.

These resources can be:

- Texts, which describe and explain the topic and embedded tasks
- Images, pictures and photos
- Graphs and tables
- Videos, which show a process or a situation
- Software

The core principle is to meet the expectations and outcomes of a course by using learning resources. These expectations can be defined in many different ways. They can be defined on an institutional, local, provincial or national level, for example, specific requirements needed for accreditation. The expectations and the learning resources have to be tested with the target group. In course design in further education the trainer often configures his or her own curriculum. Didactical training methods exist in several categories.

The trainer introduces a new topic, gives information (for example, his/her expert knowledge), and lets the learner exchange knowledge, ideas and experiences. It is also necessary to help the learners ask questions and to see the topic from different perspectives. Finally, the trainer also uses reflective methods to let the learners reflect on their experiences and their new knowledge.

3.9 Didactical methods – Authenticity and action orientation

It is very important to provide the learners with authentic courses. Authentic means involving the learners in topics, situations and role-play scenarios which can be found in real-life. The learners should learn how to solve problems they will face in every-day situations through this interactive method of instruction.

To create an authentic learning arrangement Cronin (1993) provides us with three helpful hints:

“Work toward more authenticity, not complete authenticity. Not every learning activity must duplicate real-life experiences. The hope is that, over time, activities will more closely resemble the real world than they have in the past. When the expectation is more reasonable, people may warm to it more quickly.”

“Exploit available opportunities for authentic learning. Few people bake apple pies when they must begin by planting the trees. Even traditional textbooks contain story problems, suggestions for experiments, and ideas for projects that promote more authentic learning. The process of change begins



with taking advantage of available opportunities and more systematically tying them to curriculum and assessment.”

“Start with less complex tasks. Educators will have an easier time implementing authentic learning if they feel free to begin with simpler adaptations of the concept. Drafting a letter to the editor on a local environmental issue, for example, is an easier task to introduce than creating a Model United Nations to investigate global environmental problems. Both are authentic and valuable learning experiences. Experience will build the confidence educators need to attempt more complex tasks.” (Cronin, 1993)

3.9.1 Action Orientated

To make learning more authentic and also to involve the learner in the whole learning process learning theory provides us with a second approach: action orientation.

Action orientated learning focuses on and includes work experience and learning in the learning process. In such a learning environment they have to tackle authentic issues and problems. The learners are forced to reflect on their own actions. During the whole process the learners acquire knowledge through their own actions and practices. Traditional instruction is possible in these contexts but it is not in the main focus of learning activities.

This means that a trainer should create their own didactical concept in a way that the learner is working on four main steps in the course. These steps include:

- Planning: The learners have to plan their actions and have to make decisions
- Doing: The learners have to arrange their environment appropriately, in line with their skills (cognitive, sensorimotor, emphatic, communicative, etc.)
- Checking: The learners are forced to control their actions and reflect on it.
- Acting: The learners have to revise their actions if they recognize differences between the plan and the result of the checked action.

3.9.2 Didactical methods: difference between training and presenting

Training and Presenting are not the same. Sometimes in training sessions presenting elements are integrated. But the aim is to foster the abilities and competences of the learners and not only to provide learners with content. Therefore a course which only presents facts and content is often not as useful for the learner as training with a mix of methods.

Training is systematic. In general it is designed with a mixture of methods. The selection of methods is made by the tutor and it has to fit to the particular training needs of the courseware, in a special learning phase. Therefore training can be described as an acquisition of knowledge, skills, and competencies. It is a result of teaching and the planning.

Examples of Difference Methods are:

- | | |
|----------------------------|---------------------------------|
| ☐ Explaining | Independent/Autonomous Learning |
| ☐ Case studies | Demonstrating |
| ☐ Collaboration | Peer discussion |
| ☐ Action learning | Self-explanation |
| ☐ Observation | Brainstorming |
| ☐ Interviewing | Reading |
| ☐ Experimenting | Problem-solving |
| ☐ Use of tables and graphs | |

If a tutor announces that they are presenting, they normally use ‘frontal instruction’. This is a tutor-centred method of training delivery. Therefore the tutor controls the activities in the class and the learning activities are mainly centred on the front of the classroom. With the term ‘frontal instruction’ or frontal teaching is often associated with the method of a tutor-led lecture or the method of questioning-developing teaching. That means that the tutor provides information, asks questions and discusses the topic with the class.

Tutor-centred Approach	Learner-centred Approach
Knowledge is transferred from a teacher to learners.	The learners construct knowledge through gathering information. They are synthesizing information and communicating with peers.
The learners passively receive information.	The learners actively work on problem-solving and gathering information.
The emphasis is on right answers.	The emphasis is on creating the right opportunities to find the right answers to the problems.
Competitive culture in the learning process.	Cooperation and collaboration culture in the learning process.
The tutor is information giver.	The tutor is coach and facilitator.

3.9.4 Didactical methods – Sequence and structure

Sequencing the learning process is very important. It does not matter how long a learning process takes. It is even more important that all stages of the learning process are catered for when planning a course and that the learner will go through all these stages.

The stages, according to Roth, include:

- ❖ Stage of motivation (willingness to learn)



- ❖ Stage of difficulty (detection of resistance)
- ❖ Stage of solution
- ❖ Stage of execution
- ❖ Stage of exercise (repetitions)
- ❖ Stage of integration and transfer

Tutors do not have to facilitate these stages in the order provided but must ensure that all stages have been completed within the framework of the course. Regarding the sequencing of the learning stages, below are some hints and tips to help you in your role as the tutor. These hints are a useful resource as it is the responsibility of the tutor to help the learners to cope with problems and challenges they may face at the different stages in the learning process.

The following are the tips to be followed during the stages:

❑ STAGE OF MOTIVATION (WILLINGNESS TO LEARN)

The fact is that anyone who wants to learn must be willing to learn, either of an inner drive (Intrinsically: achievement motivation, interest, curiosity) or by external incentives (Extrinsically: need for reward, punishment, application).

❑ STAGE OF DIFFICULTY (DETECTION OF RESISTANCE)

It is necessary to develop awareness of the problem. This is one of the most important steps in the learning process. The idea is to make the problem personal and relevant to the learner's situation, and to make the learner aware that there is a problem. Therefore in every learning process it is useful to ask the question of whether the problem was detected by the learner. Help the learner to ask: "What is the problem?" and to find a satisfactory answer. Only then can the next step be successfully achieved.

❑ STAGE OF THE SOLUTION

The didactic art of a tutor is to facilitate learning and to achieve the learning outcomes. Therefore the tutor has to undertake a reduction of the course topic and its complexity, and to transform the content into different media. To provide meaningful training and to achieve the learning outcomes, the correct use of learning materials such as lectures, discussions, group work, etc. is necessary.

❑ STAGE OF EXECUTION

The learners have to act by themselves. They must understand the process themselves, to be sure about the task or the process. Therefore learners have to try a task, such as create, write, play or test.

❑ STAGE OF EXERCISE (REPETITIONS)



Exercises are used as a means of ensuring that learners will not forget important issues. This stage provides the learner with an opportunity to interact with the tasks, the content and the problem which should be solved.

☐ STAGE OF INTEGRATION AND TRANSFER

At the end of the learning process learners should be able to transfer what they have learned into real-life situations and therefore it is necessary to help them to be sure how they can use their new skills and knowledge in an every-day situation

3.10 Systematic Instructional Planning

Designing the training programme is a systematic process. The training development process involves a series of steps in which you formulate the aims and learning outcomes. The aims and outcomes of a training course provide the central focus of the course in terms of content, delivery, assessment and evaluation. In essence, they are the building blocks of training programmes on which other elements are based.

At this stage you will design the instructional event and develop lesson plans. In this section you will focus on the details of planning instructional events. Instructional events are typically planned through the development of lesson plans. They follow a systematic process so that material, strategies and content facilitate learner achievement of learning outcomes. Lesson plans are central to the trainer's planning and organisation of instructional events. As with all elements of training, an *ad hoc* approach to planning the training programme is not likely to lead to the best training and learning outcomes. Systematic planning of the instructional event will give you a clear outline of the various elements of the training programme.

The overall plan for a training programme contains the following elements:

- Title of the training programme: brief and descriptive
- Overall aim of the training programme
- Learning outcomes: a list of what the learners will be able to do on successful completion of the training course
- Length of training programme: (minutes, hours, days, weeks)
- Brief description of training programme content
- Training methods: overview of training methodology and approaches to be used
- Instructional materials: list of material and equipment needed for the training session (e.g. computer, computer software, video, projector, flip-chart, markers)
- Evaluation strategy: overview of how the evaluation process will be carried out, including assessment of learning outcomes



The systematic approach to course development takes you through a set of linked steps. The following model provides one useful way of approaching the design process;

- Formulates course and learning outcomes, which in turn
- Guide the content of the course, which in turn determines the selection of appropriate training methods
- and materials, which in turn
- Shapes the planning of learning environment conditions, which in turn
- Underpin successful implementation of the training event.

Because this is a process of interrelated steps, changing one component may have an impact on other components. For example, if you change a learning outcome, this change may affect course content, materials and methods. Planning your training events is a process that requires you to constantly ensure that you have maintained consistency in the alignment of course aims, learning outcomes, content, materials and methods. Designing a training programme is a process of interrelated components. It is a process that requires consistent alignment of aims, learning outcomes, course content, course materials and methods.

3.11 Developing Course Aims and Outcomes

Following successful completion of the needs analysis, the first step in the development process is to formulate training aims and expected learning outcomes. The training needs analysis provides the initial rationale for training; the training aims and outcomes make the link between rationale and practice. The aims and outcomes of a training course are written to reflect the outcomes of the training needs analysis. This ensures that the training will be relevant to the learners and will be a direct response to the performance gaps identified in the training needs analysis.

Formulating course aims:

Aims are the broad general statements of teaching and learning intent. They inform stakeholders of the overall purpose of the training programme. They are written to give an indication of what will be taught and what will be learned in the training course. They provide an overview of the intended outcomes of the training. Aims are typically written from the trainer's point of view. Examples of training aims include:

- The aim of the training course is to introduce learners to the principles of organisational communication.
- The aim of the training course is to raise awareness of equality and diversity issues in the workplace.

From these examples you see that the aims provide you with an overall view of the purpose of the training course. Aims do not provide you with any detail as to the specifics of the course. Training aims



will not give a clear idea of what a person will learn on a course. You will not know that until you look at the learning outcomes of the course.

3.12 Learning outcomes

Learning outcomes are statements about the specific intended learning outcomes of a training course. They focus on the learner, and provide a clearly-defined indication of what the learner will be able to do on completion of the training course. Learning outcomes reflect the desired performance outcomes and competences that learners are expected to have achieved on successful completion of training. Learning outcomes form a critical element of the development of training programmes. They...

- are learner centred.
- specify what the learner should be able to do on completion of the course.
- identify what level of performance is expected from the learner.
- specify the cognitive, behavioural and affective scope of training outcomes.
- guide the content of the training materials.
- determine delivery methods.
- identify learning environment conditions.
- provide directions for evaluation and assessment.

Learning outcomes focus on what the learner will be able to do on successful completion of the training course. They focus on what the learner will learn, not what the teacher will teach. The acronym SMART is often used to help formulate learning outcomes. It provides guideline criteria on key components of outcomes.

- Specific: outcomes must give specific details about the expected outcome of learning.
- Measurable: outcomes must be capable of being assessed.
- Achievable: the learning outcome must be attainable.
- Relevant: learning outcomes must be pertinent to course material.
- Timed: in general, outcomes should be time-bound.

When writing learning outcomes, you must use action verbs. These are verbs that pinpoint observable behaviour and help learning outcomes adhere to the principles of SMART. The central point is that you write learning outcomes in a way that allows you to measure what the learner has learned. This approach allows you to determine whether or not learning has taken place.

Bloom's Taxonomy

Bloom's Taxonomy was first edited in 1956 by the American educational psychologist Benjamin Bloom and outlined the following classification of learning objectives according to the cognitive processes involved in the mind of learners. From lowest to highest these are:

1. Knowledge. Learners must be able to recall or remember the information.
2. Comprehension. Learners must be able to understand the information.
3. Application. Learners must be able to use the information they have learned at the same or different contexts.
4. Analysis. Learners must be able to analyse the information, by identifying its different components.
5. Synthesis. Learners must be able to create something new using different chunks of the information they have already mastered.
6. Evaluation. Learners must be able to present opinions, justify decisions, and make judgments about the information presented, based on previously acquired knowledge.

Bloom's taxonomy is important to refer to in the developing of your learning objectives as it helps you understand the level of cognitive processes involved in human learning, that is the natural order according to which your target audience will process the information you present. For example, the learning objectives for a compliance training course would be about making sure that the employees know the company's policies and principles (Level 1: Knowledge), whereas the learning objectives of a productivity training course must be about making sure that the employees are able to put what they are learning to use in order to boost their performance (Level 3: Application).

Bloom presented his taxonomy in a hierarchical order; however, often E-learning professionals dismiss lower levels as unworthy, which is a mistake. Lower-level objectives should never be ignored; on the contrary, before achieving higher-order learning objectives, E-learning professionals should first make sure that learners have all the necessary requirements in terms of previous knowledge in order to proceed. A pre-test, for instance, may be used to identify potential knowledge gaps and recommend learners a quick revision before taking the module under consideration.

Knowing the order that cognitive processes involved in learning take place, will significantly help you set your learning objectives accordingly. But how can you make sure that you are communicating them clearly to your audience? We mentioned earlier that learning objectives need to be as specific as possible. Anderson and Krathwohl, back in 2001, worked on a revised version restating the Bloom's Taxonomy in verb format, facilitating the process of writing learning objectives by providing Instructional Designers with a list of verbs they can use to help their audience understand exactly what is expected of them. Here is a list of specific, measurable verbs you can use when writing learning objectives for each level of the revised Bloom's Taxonomy:

1. Remember.
Memorise, show, pick, spell, list, quote, recall, repeat, catalogue, cite, state, relate, record, name.

2. Understand.

Explain, restate, alter, outline, discuss, expand, identify, locate, report, express, recognise, discuss, qualify, convert, review, infer.

3. Apply.

Translate, interpret, explain, practice, illustrate, operate, demonstrate, dramatize, sketch, put into action, complete, model, utilise, experiment, schedule, use.

4. Analyse.

Distinguish, differentiate, separate, take apart, appraise, calculate, criticise, compare, contrast, examine, test, relate, search, classify, and experiment.

5. Evaluate.

Decide, appraise, revise, score, recommend, select, measure, argue, value, estimate, choose, discuss, rate, assess, and think.

6. Create.

Compose, plan, propose, produce, predict, design, assemble, prepare, formulate, organise, manage, construct, generate, imagine, set-up.

“Setting clear learning objectives” is a requirement in the design of effective e-learning courses. However, “clear” may have different meaning for different people; what is absolutely clear to you may not be as clear as you think to your audience. Having clear learning objectives for e-learning is also a great tool for building the structure of your e-learning content; knowing exactly what you want your learners to achieve helps you organise your e-learning material in a proper way so learning becomes as effortless as possible and thus more immersive.

Key Facts about Learning Objectives

1. Learning objectives and learning goals is not the same thing. Learning objectives may be “the essence of your online course’s goal” as mentioned earlier, but they are not the same with learning goals. A learning goal describes in broad terms what the learners will be able to do upon completion of the E-learning course, whereas a learning objective describes, in specific and measurable terms, specific elements that learners will have mastered upon completion of the online course. The key words here are “specific” and “measurable”: Goals are broad; they help you focus on the big picture, though your learning objectives should be much more specific. Goals give you directions to write your learning objectives, but you should never confuse these two.
2. There is some information which should not be included in your learning objectives. Your learning objectives should not include information about a) your audience and b) the strategy you are following to develop them. Both these elements are important, but they have no place in learning objectives. The only thing you need to have in mind when developing them is what your learners will gain by engaging in the E-learning activity.

Tips to consider when working with Learning Objectives for e-learning

1. Align e-learning assessment with your learning objective. E-learning is used to evaluate what your audience is learning; the more consistent they are with your learning objectives, the surer you can be that your learners are on board with your e-learning course.
2. Remember to use specific and measurable verbs when writing them. Consider using the aforementioned list of verbs and their synonyms.
3. Make sure that your learning objectives are appropriate for your learners. Who are you writing your learning objectives for? Managers? Customer service? New hires? The sales department? What do they already know and what is absolutely necessary for them to learn? Consider analysing your audience before you begin developing your learning objectives.
4. Ask yourself if your learning objectives are achievable and realistic. In other words, ask yourself if they are achievable within the time-span of the e-learning course, and if they are supported with the appropriate tools and resources.
5. Use simple language and keep them short. Simple language is direct and engaging, whereas limiting your learning objectives in one sentence will help your learners focus better on what is expected of them.
6. If several, organize them in subcategories. Dividing your learning objectives into subcategories, if needed, will help you avoid overwhelming your learners.

3.13 Developing Course Content

The learning outcomes will guide decisions about appropriate course content. Once you have clearly defined the learning outcomes, you will need to think about the different elements of knowledge, skills and attitude that the course content should cover. Planning course content involves thinking about the actual content, grouping the content, prioritising the content and sequencing the content.

One way to begin this process is to write out the different elements of content without thinking about the sequencing or organisation of the course. While keeping the learning outcomes in mind, brainstorm to generate ideas that add to the main topics of the course. Write them out 'messily' on a sheet of paper, trying to make links to related elements. This form of free writing and Mind mapping helps the creative process and stimulates ideas about the content. You can return to the map over and over again as ideas emerge from your brainstorming. You may need to carry out some literature research to develop more ideas. Do not worry at this point about the relationship between the elements; you can attend to these details at a later stage.

The second step in the development process is to think about how you are going to group the identified content into modules and units of the training programme. The DACUM approach is a systematic process that will help you organise the ideas that have emerged from the content mapping into logical and coherent course modules, units and lessons.

3.14 Developing a lesson plan

Once you have prepared an overall plan for the training programme, you are ready to prepare detailed lesson plans for the individual lessons.

Lesson plans are developed for the purpose of:

- Logically organising different elements of a training session into a coherent and interrelated instructional event that focuses on learning outcomes.
- Informing learners of lesson learning outcomes.
- Planning the organisation of instruction so that learning relationships between knowledge, skills and attitude are developed.
- Facilitating progression in learning that helps integrate new ideas and concepts into existing knowledge, skills and value frameworks.
- Planning content that is linked to assessment criteria and accreditation descriptors.
- Identifying methods and materials that will be used during a training session.
- Planning opportunities for discussion and practice of ideas and their application.
- Structuring opportunities for feedback on performance and on application of knowledge and skills.
- Integrating motivational strategies that support learners in their achievement of learning outcomes.
- Managing the timings of an instructional event so that all elements are covered within the allotted time.
- Providing a trainer guide that establishes an overview of content scheduling, methods and materials and that helps keep the training on track.

3.15 Gagné's Nine-Stage Lesson Plan

Gagné's nine-stage lesson plan will help you to sequence the content of your lesson. Properly designed, a lesson plan will include all the points listed in the purposes of a lesson plan. You can use the Gagné nine-step model for any training lesson, no matter what the lesson is about. The nine steps allow you to relate the learning outcomes of the lesson to the learners and to relate new knowledge and skills to the already known. They allow learners to practise applying new knowledge to experiential situations, to practice new skills and to gain feedback on their performance within the context of the training environment. Importantly, Gagné's instructional stages help to keep learners motivated and interested.

GAGNÉ'S NINE STAGES OF INSTRUCTION ARE:

1. Gaining attention



Conditions of learning: An important task at the start of a training session is grabbing the attention of the learners. There are a number of ways you can do this. Your choice will depend on the learning context and environment, the learner group, and/or your personal training style. For example, trainers often introduce an 'ice-breaker', an unexpected idea or puzzle, through a visual overhead or computer slide, change the tone of their voice or use a 'grand' gesture to focus the attention of the learner group on the training session.

Motivational strategies: Part of the process of gaining attention is to introduce the learners to the topic of the training session and to emphasise the relevance of the topic to learners' every day and professional lives. You want learners to be receptive to the training. As a motivational strategy, you can draw on learners' pre-existing knowledge of the topic to enhance the connection that they make with the upcoming training. Asking learners to introduce themselves and to mention any experience they have had in the topic-related area helps to strengthen the relevance of the training both individually and collectively.

2. Informing the learners of the learning outcomes

Conditions of learning: This stage of instruction moves to more detailed information on the specifics of what learners will be able to do when they have successfully completed the training event. Informing the learners of the learning outcomes helps learners focus on their expectations of the training. It creates ownership of learning. Illustrating the learning outcomes with examples will help learners relate to expected competences.

Motivational strategies: Telling the learners what exactly they will be able to do on completion of their training works as a motivational strategy. It fosters awareness and feelings of connection to the training, and allows learners to form expectations for the training. Moreover, learners can reflect on the learning outcomes to anticipate how they will fit their new learning into their pre-existing knowledge and skill-set. By connecting to the relevance of training in this way, learners are more likely to engage in learning activities throughout the lesson. Sharing examples of practical expectations and applications will help impress on the learners the relevance of the training.

3. Stimulating recall of previous learning

Conditions of learning: This stage of instruction helps the learners to recall previous learning. By pointing out how learners can link new learning with the knowledge and skills they already possess, you re-emphasise the relevance of the upcoming training. This helps to create a favourable attitude to learning. For example, asking questions about how learners used previously-learned knowledge and skills encourages them to recall what they already know, and helps them to think about how they may be able to make use of their new competences.



Motivational strategies: Recalling previously-learned material, whether learned in a previous lesson of the training programme or gained from experiential learning, helps motivate learners' interest in the lesson. It builds a positive attitude towards ongoing training and learning. Using examples helps learners create practical meaning from the training and its learning outcomes.

4. Presenting new training content

Conditions of learning: This is the stage where new content is presented to learners. It facilitates learners in developing their perception of new learning and processing it in ways that are relevant to them. Lectures, tutorials, presentations or video are examples of strategies that trainers can use to present new knowledge-related material. You can explain concepts and theories, illustrating them with examples and inviting discussion around the points of learning. These are all useful ways of presenting new material. You need to order the material logically so that it is easy to understand and follow. Trainers use demonstrations to present new skill-related learning.

Motivational strategies: Providing variety in personal presentation style and modes of instruction helps to maintain learners' attention and interest. Linking new content with pre-existing knowledge and skills helps the learners to engage with new learning. It helps learners to develop topic-related competence.

5. Providing learner guidance

Conditions of learning: This instructional stage helps learners to encode newly-acquired learning into long-term memory. It is an opportunity for the trainer to make learning more meaningful for learners. By using relevant examples and illustrations, you can clarify abstract ideas and concepts. Question-and-answer sessions are useful for giving hints and tips about applying concepts to practical situations. Learners get a chance to analyse and discuss what they are learning. This can help them to encode new learning for long-term retention.

Motivational strategies: Providing learner guidance in applying new information can help learning become meaningful for learners. It helps them connect learning to real contexts and helps them realise the practical implications of new information.

6. Eliciting performance from the learner

Conditions of learning: This stage enables learners to respond to new information and to explore how they can apply this to real-life situations. Learners get the opportunity to practise and demonstrate what they have learned. Having learners work collaboratively in buzz-groups on relevant activities, problems or case studies provides opportunities to confirm their understanding and interpretation of new learning.

Motivational strategies: Eliciting performance sustains motivation by allowing learners to respond to what they have learned and to explore the application of knowledge in a safe learning environment. It



allows learners to interact and work collaboratively with other learners, to share ideas, to tease out complex ideas and to learn how to integrate their new learning with what they have already learned.

7. Providing feedback on learner performance

Conditions of learning: Giving immediate feedback to learners on their performance is important in reinforcing appropriate integration of material. It helps to clarify misinterpretation and misunderstandings. Feedback provides advice to learners about ways to improve application of knowledge or skill performance.

Motivational strategies: Constructive feedback helps learners to achieve learning outcomes and to develop their competences. It instils confidence by emphasising ways in which they can successfully apply their learning.

8. Assessing learner performance

Conditions of learning: It is important to assess the extent to which the learners have achieved the learning outcomes. You can assess how well the learners can recall newly-learned information. Since the ultimate goal of training is to change behaviour, assessing learner achievement of performance changes is a central component of the training cycle. Setting relevant assessments that are fair, valid and consistent will allow you to gain insights into learners' learning achievement. For some training programmes, learners can gain a certificate that proves that they have reached the target learning outcomes.

Motivational strategies: Relevant and authentic assessment enables learners to assess how well they can apply new information. It allows learners to identify their strengths and weaknesses and to make changes that will improve their performance.

9. Enhancing retention and transfer of new learning

Conditions of learning: During this stage, the trainer facilitates learners in suggesting how new learning can be applied in real-life situations. This stage encourages learners to generalise their new learning within diverse contexts and situations. The ability to be able to transfer 'classroom' learning to the real-life and workplace contexts is an important determinant of successful training interventions. This step helps learners to review what has been covered in the lesson and discuss the progress that has been made. You should provide opportunities for learners to discuss practical ways in which they can transfer improved performance to different contexts.

Motivational strategies: This stage enhances the practical meanings that learning outcomes have for learners. In reflecting on the progress made, learners can identify their achievements. Seeking out ways



in which they may be able to transfer their learning beyond the classroom conveys a sense of mastery of topic-related knowledge and skills.

3.15.1 How to Apply Gagné's 9 events of instruction to an e-learning course

E-learning professionals can use these nine events of instruction to develop e-learning experiences that stick and offer online learners the opportunity to engage in every step of the instructional process.

1. Create an attention-grabbing introduction

The first, and most important, event is gaining the attention of every learner in your audience. One of the most effective ways to do this is to create a compelling introduction that gets them hooked right from the start. Lead off with a story that pulls at their heart strings, or a question that surprises or shocks them. Even online learners who are distracted or possibly unmotivated to participate cannot resist an intro that creates an emotional connection and gets them thinking about the topic.

2. Inform learner about the objectives of the e-learning course.

This means that you must clearly state the goals of the e-learning course. Your learners must know WHY they need to actively participate in the e-learning course before they even access the first online module or activity. Be very clear about the objectives of the e-learning course, and tie it into real-world applications and benefits. If they know that they are going to take something valuable away from the E-learning experience, then they are more likely to engage in the online learning process.

3. Stimulate recall of prior knowledge.

Recalling and applying knowledge they have previously acquired gives online learners the chance to commit it to long-term memory, rather than forgetting it a second after they have read it. Before you start each e-learning activity, let your audience know what skills or knowledge they will be applying to the task, as well as how the subject matter is connected to information they already have in their knowledge base.

4. Create goal-centred e-learning content

Each and every e-learning activity, online exercise, and piece of e-learning content should tie in directly to the goals and objectives. In fact, it's best to group information and concepts together based on the specific goal. For example, an online lesson or module should focus on one core objective, which allows the learner to master that topic before moving onto the next.

5. Provide online guidance

Even the most advanced online learners may need support when it comes to learning new skill sets and absorbing new knowledge. Otherwise, they may become discouraged or frustrated and disengage from the e-learning experience altogether. They must have the coaching they need to develop favourable



online learning behaviours, or else they might be committing incorrect information to their long-term memory.

6. Practice makes perfect

Repetition is core to absorbing and retaining new knowledge and skills. Thus, you should include plenty of opportunities for your learners to apply the knowledge they have acquired so far and try out behaviours that can help them in the real world. Offer branching scenarios and simulations that give them the chance to see where their decisions lead them, as well as the rewards and risks involved that come of their actions.

7. Offer timely feedback

By giving your learners timely and constructive feedback they have the power to improve learning behaviours and identify their weaknesses and strengths. Offer personal feedback, rather than giving general praise or criticism to your entire audience, so that every learner knows which steps they must take in order to reach their goals.

8. Assess early and often

Assessing your learners not only gauges their progress, but also gives you the opportunity to identify weak spots in your e-learning strategy. For example, if a vast majority of your learners are struggling with one particular online module, you may want to re-evaluate its online content and activities. E-learning assessments also offer you the ability to identify the knowledge gap, which is what they already know versus what they still need to acquire in order to achieve the learning objectives of the E-learning course.

9. Enhance transfer of knowledge by tying it into real world situations and applications

Your learners must always be aware of how they can apply what they have learned once they step out of the virtual learning environment. As such, you should include real-world scenarios, stories, and other interactive e-learning activities that show them the applications of the information and skills they've worked so hard to develop.

No matter what the e-learning goals are or who your target audience is, you can use Gagné's 9 Events of Instruction to create effective and engaging e-learning courses for your learners. The primary objective of any e-learning course is to give your learners the information and skills they need to improve some aspect of their lives, and this strategy can help you to develop a complete e-learning experience that does just that.



Unit Four: Evaluation and Assessment Techniques



4.1 Introduction

Training courses and programmes aim to increase participants' knowledge, facilitate change in participants' behaviour and improve participants' personal competence. In essence, effective training strives to ensure that participants will perform better as a result of having participated successfully in a training programme; that training will deliver benefits to participants. The aim of this unit is to help participants on this Train the Trainer programme to be able to competently evaluate and assess the effectiveness of their training programmes to ensure they deliver high-quality training opportunities to their participants, through both online and face-to-face training delivery.

4.2 Specific Learning Objectives

By the end of the unit, the participants will be able to:

1. Understand the main purposes of systemic evaluation
2. Identify and implement the Four-Level Model of Evaluation
3. Implement evaluation procedures to evaluate learners at the Reaction, Learning and Behaviour Level.
4. Define Diagnostic, Formative and Summative Assessment.
5. Select and implement appropriate evaluation and assessment techniques for their mini-learning resources.

4.3 Systematic Evaluation

Systematic evaluation is the process by which you measure outcomes of the training programme. Just as training needs analysis identified performance gaps and a need for training, evaluation measures the extent to which training addressed identified performance gaps. There is a clear link between identified performance gaps, expected learning outcomes and evaluation purposes and goals.

The main purposes of evaluation are to:

- Determine the extent to which the training programme has met the training needs as identified in the training needs analysis.
- Determine the extent to which the participants have achieved the expected learning outcomes.
- Measure the extent to which a change in skill, knowledge or attitude has resulted in a change in overall learner behaviour.
- Identify areas of the training programme that have been successful.
- Identify areas of the training programme that need improvement.
- Determine the value of the training programme to organisational goals.



4.4 The Four-Level Model of Evaluation

The Four Levels of Evaluation, also referred to as the Kirkpatrick Evaluation Model, was created by Donald Kirkpatrick, to define the four levels of training evaluation. The four levels of evaluation are: (1) the reaction of the student and their thoughts about the training experience; (2) the student's resulting learning and increase in knowledge from the training experience; (3) the student's behavioural change and improvement after applying the skills on the job; and (4) the results or effects that the student's performance has on the business. While there are many models of evaluation in use, Kirkpatrick's four level model is regarded as a classic approach to evaluation and is widely used by training practitioners.

LEVEL 1 – REACTION

Evaluation at reaction level focuses on measuring participants' immediate reaction to the training. This level of evaluation is carried out immediately after the training programme has been completed. It provides insights into participant satisfaction with the training programme. It asks questions about elements of the training such as the level of satisfaction with the delivery, content and effectiveness of the training in meeting participants' training needs. It highlights strengths and weaknesses in areas such as relevance of training content, trainer effectiveness, delivery techniques and learner perceptions of the usefulness of training to their training needs.

LEVEL 2 – LEARNING

Evaluation at learning level measures the extent to which learners have achieved the expected learning outcomes. In other words, this level of evaluation measures the extent to which participant attitudes have changed, the extent to which their knowledge has increased and the extent to which their skills have improved. At this level of evaluation, you assess the learners on their achievement of learning outcomes. Evaluation at this level provides insights into the extent to which learning has occurred at *individual* level.

LEVEL 3 – BEHAVIOUR

Evaluation at behaviour level measures the extent to which individual behaviour has changed as a result of training. It is about determining whether or not training participants have *transferred* their learning to their jobs. This level of evaluation is carried out after training course participants have returned to their workplaces and have had opportunities and time to implement their new learning. It should provide insights into problems and difficulties that participants had in transferring and implementing new learning. Problems with implementing new learning are often caused by workplace conditions such as poor 'buy in' from supervisors, or managers who may see little value in new ways of doing things. Organisational culture can also impede implementation and application. Evaluation should highlight such issues and problems.



LEVEL 4 – RESULTS

Evaluation at results level measures the extent to which training has generated organisational improvements such as increased productivity, improved quality, decreased costs, reduced frequency of accidents, reduced staff turnover and increased employee well-being. Results-level evaluation can focus on objective outcomes such as increased profits. It can also focus on subjective training outcomes such as increased employee well-being and customer satisfaction. While it may be relatively easy to relate training to increased productivity, it can be difficult to measure intangibles such as improved employee morale and workplace harmony.

4.5 The Evaluation Process

While a comprehensive evaluation will carry out all levels of Kirkpatrick's model, you may decide not to carry out all levels. The levels most frequently carried out are Level 1 - Reaction and Level 2 - Learning. Level 3 and Level 4 require considerable time investment and therefore trainers tend not to carry them out routinely. By excluding Level 3, the level of transfer to the workplace is not measured; there is little insight into how training programme participants transferred and implemented their learning into their jobs and workplace setting. Ultimately, the real value of training is measured by the extent to which the learners have changed their behaviour and applied what they have learned to work situations. Evaluation at Level 3 allows you to measure evidence for this change and workplace application.

EVALUATING AT REACTION LEVEL

Reaction Level evaluation is carried out at the end of the training programme. You are probably already familiar with this level of evaluation from training sessions that you have attended. The trainer hands out evaluation sheets at the end of training programmes asking about your perceptions of the training. This level of evaluation is often referred to as the 'smile sheet' evaluation, because of the typical responses received indicating that participants enjoyed the training and had fun participating.

Measuring reaction to training is important for several reasons:

- It measures the satisfaction level of participants to training, which in turn motivates participants to implement and apply their new learning to work situations.
- It can provide valuable feedback by way of comments and suggestions from participants.
- It conveys a sense that trainers are listening to participants.
- It provides trainers with feedback as to their competence, which in turn can be shared with stakeholders.
- It provides information as to the relevance of training content to participants.
- It provides information as to the structure and organisation of the training programme.
- It provides information that can be used to establish standards of performance for future training program.

Before developing a Reaction Level Evaluation Sheet, you need to decide what you want to find out. For example, you might want to collect reactions to:

- Training course content
- Training course relevance
- Instructional methods
- Trainer competence
- Training environment
- Structure and organisation of the training programme

Next you design questions around the topics of interest. For example, you may want to ask participants to rate the presentation of the content. You need to decide the format of the questions you want to ask:

- ❖ Do you ask open-ended or closed questions? People can say what they like in answer to open-ended questions. Open-ended questions gain good information but are difficult to analyse.
- ❖ Close-ended questions require a single clear-cut answer (like yes/no), and are easy to analyse afterwards. For example, you could ask: 'How did training meet your expectations?' (Open-ended question) or 'Did the training meet your expectations?' (Closed question).
- ❖ You may want respondents to rate the training content on a scale from 1 to 5, for example. You may want respondents to check items from a list of choices. For example, in answer to the question 'How would you rate the content of the training programme?' You may provide a scaled checklist like this: Very satisfactory, Satisfactory, Not at all satisfactory.
- ❖ You may want to use a variety of question types or you may select one particular format for the entire evaluation sheet. Variety overcomes respondents' tendency to respond the same way to all questions. In contrast, sheets that use a single format are easier for participants to complete and are easier to analyse. Overall, keep the evaluation brief so that participants are able to complete it quickly.

Evaluating at Learning Level

This level of evaluation is typically referred to as **assessment** and entails a systematic approach to determining the extent to which the learners have achieved the learning outcomes. We can look at the purpose of assessment from the perspective of three main stakeholders:

- **Learners:** assessment allows learners to assess their achievement of the stated learning outcomes, to demonstrate their learning and their competence. The award gained for successful achievement in assessment results in the attainment of desirable qualifications.
- **Trainers/Instructors:** assessment provides trainers and instructors with a measure of the extent to which the learners have achieved the expected learning outcomes of the training programme. It performs a diagnostic role in that it informs trainers and instructors as to the

level of progression of individual learners through the course. It provides trainers and instructors with feedback on how effective their training and instructing have been.

- **Training Process:** assessment is a critical element of quality assurance of a training process. It makes clear the extent to which award standards are maintained and upheld.

Evaluating at behaviour level

Evaluation at behavioural level is carried out after training has been completed and after participants have had time to transfer their new learning into their work situations. This might typically be three to six months after they have completed the training. This allows time and opportunity for course participants to implement new behaviours and performances into their working practices.

Evaluating behaviour-level changes is important for several reasons:

- It measures the extent to which participants believe they have been able to transfer learning into their work practices.
- It provides insights into the effectiveness of on-the-job application of learning.
- It identifies areas of training that have not been transferred to work practices.
- It identifies areas of training that have been transferred to work practices.
- It allows comparison of Reaction level data and behavioural level data.

Developing a behaviour level evaluation sheet:

As with the Reaction Level evaluation sheet, planning what you want to find out about behaviours is important in the planning of the evaluation sheet. For example, you might want to collect information about the extent to which participants believe their performance in particular areas has improved.

4.6 Assessment Techniques

As with all elements of training, planning assessment techniques and procedures is important in the training cycle. Planning assessment involves:

- Matching assessment to learning outcomes;
- Developing the assessment method;
- Devising marking criteria.

Assessment can be carried out before, during and after a course:

Diagnostic assessment happens before a course. As a pre-test, it is a method of finding out a learner's current level of knowledge and skill regarding a topic. In this way you can use it to identify knowledge and skills gaps. Trainers can also use it as a screening mechanism to find out a learner's aptitude for a particular course.

Formative assessment occurs during a course. Formative assessment is assessment *for* learning. It provides learners with opportunities to assess their performance against expected learning outcomes while the course is still in progress, so they have time for improvement. Formative assessment is often not graded, and thus provides a risk-free opportunity to ‘try out’ skills. Formative assessment can have a diagnostic function. It is a way of alerting trainers and instructors to difficulties that learners may have. The trainer can provide feedback on performance and suggest ways to improve. The training programme may need to be modified on the basis of formative assessment results.

Summative assessment occurs at the end of the course. In contrast to formative assessment, it measures learners’ achievement of learning outcomes for the entire course. Summative assessment forms the basis on which awards and qualifications are granted.

4.6.1 Selecting Assessment Methods

There are several types of assessment methods available. Which one you choose depends on the learning outcome you are testing. The following table gives examples of assessment methods and suggested learning outcome performances that the assessment method might assess. These examples are not mutually exclusive; there is always potential for overlap between methods and learning outcomes.

Assessment Method	Domain of Assessment	Learning Outcome Performance to be Assessed
Written Test	Cognitive, knowledge	Interpreting, analysing, critiquing, recalling, describing, evaluating, explaining, discussing, formulating, synthesising.
Practical Test	Skill, knowledge, application	Applying, planning, organising, selecting, recognising, demonstrating, problem-solving.
Oral Presentation	Cognitive, skill	Recalling, describing, explaining, communicating, presenting, informing, responding.
Project-based	Cognitive, skill, attitude	Organising, collaborating, researching, presenting, analysing, evaluating, managing, planning, researching.
Observation	Skill, knowledge, attitude	Demonstrating, applying, problem-solving, decision-making, analysing, organising, planning, collaborating, performing.
Skills demonstration	Skills, cognitive, knowledge	Demonstrating, applying, developing, problem-solving, planning, performing, diagnosing, producing, locating, creating.
Examination	Cognitive, skills, attitude	Memorising, recalling, interpreting, describing, explaining, presenting, applying.

When you are deciding which assessment method to use, you will need to identify the key assessment points. What learning outcomes are you assessing? To assess a skill, for example, you will need to set a test in which you observe the learner performing the skill. Therefore you will set a practical test and assess the learner’s performance by observation.



In contrast, if you want to assess a learner's ability to interpret and analyse information on a topic you might set a written essay for assessment.

When you are developing assessment strategies, keep in mind that:

- Assessment should reflect the learning outcomes being assessed;
- Oral and written tests are useful methods of testing theory and knowledge;
- Practical tests are useful in the assessment of skills and processes;
- Observation is useful for assessing attitude;
- When designing written assessment methods, use words such as *define, describe, analyse, critique, interpret* to point out to learners what they are expected to do;
- When designing practical tests use verbs such as *demonstrate, develop, create, apply, assemble, solve, perform* to indicate to learners what they are expected to do;
- Try to base practical tests on realistic scenarios;
- Give clear and unambiguous instructions and guidelines for completing the assessment to learners and assessors;
- Make sure you can provide all resources necessary for the completion of the assessment;
- Define clearly the assessment performance standards, conditions and time allowed to complete the assessment;
- State clear assessment criteria and state what marks are allocated for each element of the submission being assessed.
- State the submission deadlines;
- Balance the ratio of assessment and training; a rule of thumb is to allow approximately 10% of training time to assessment time;
- Carry out a pilot run of the assessment. This will help identify problems before the actual assessment takes place.



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