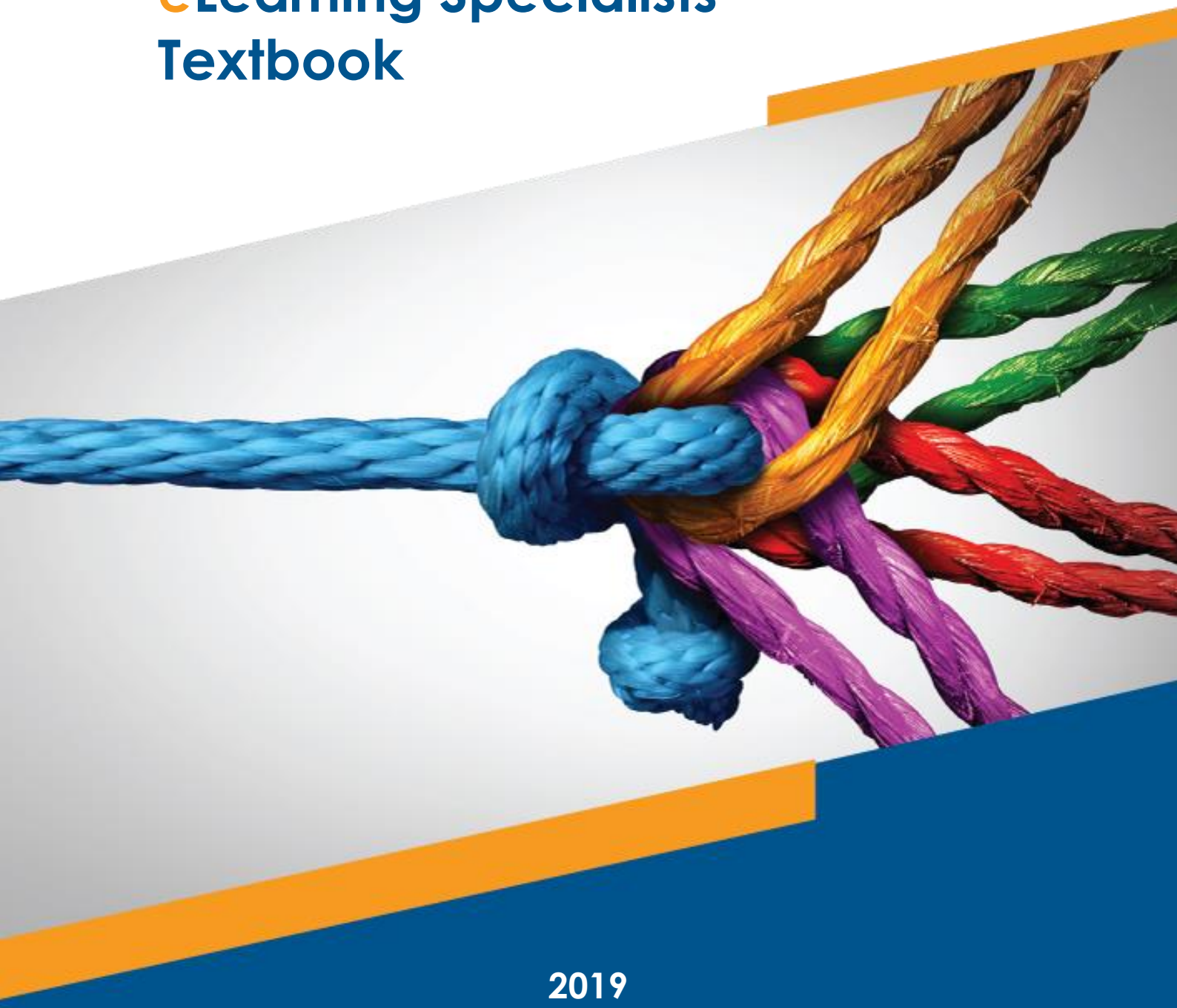
INTOSAI IDI DEVELOPMENT INITIATIVE
DIGITAL EDUCATION INITIATIVE

# eLearning Specialists Textbook



2019

© INTOSAI Development Initiative

Stenersgata 2
N-0184
Oslo, Norway

# TABLE OF CONTENTS

# ACRONYMS

| | |
|---|---|
| AFROSAI-E | African Organization of English-speaking Supreme Audit Institutions |
| ALBF | Audit of Lending and Borrowing Frameworks |
| ARABOSAI | Arab Organization of Supreme Audit Institutions |
| ASOSAI | Asian Organization of Supreme Audit Institutions |
| CAROSAI | Caribbean Organization of Supreme Audit Institutions |
| CREFIAF | African Organization of French-speaking Supreme Audit Institutions |
| ELC | Experiential Learning Cycle |
| ERGA | Experience, Reflection, Generalization and Application |
| EUROSAI | European Organization of Supreme Audit Institutions |
| ICATs | ISSAI Compliance Assessment Tools |
| IDI | INTOSAI Development Initiative |
| INTOSAI | International Organization of Supreme Audit Institutions |
| ISSAI | International Standards of Supreme Audit Institutions |
| KLP | Key Learning Point |
| KSC | INTOSAI Committee on Knowledge Sharing and Knowledge Services |
| LMS | Learning Management System |
| MAAG | Module at a Glance |
| MOOC | Massive Open Online Course |
| OAS | Organization of American States |
| OLACEFS | Organization of Latin American and Caribbean Supreme Audit Institutions |
| PA | Performance Audit |
| PASAI | Pacific Association of Supreme Audit Institutions |
| PDA | Public Debt Audit |
| SAI | Supreme Audit Institution |
| SAI PMF | SAI Performance Measurement Framework |
| SAT | Systematic Approach to Training |
| UNITAR | United Nations Institute for Training and Research |

# About this eLearning specialists Textbook

### Background – eLearning specialists certification

For a number of years, the IDI successfully designed and delivered learner-centred participatory training for audit staff from SAIs. The IDI also created a pool of training specialists in all INTOSAI regions to further support the regional and SAI-level training infrastructure. Having successfully delivered face-to-face training, the IDI decided in its strategic plan 2001-2006 to explore eLearning as a mode of training. In its strategic plan 2007-2012, the IDI moved away from stand-alone training to comprehensive capacity development support to SAIs. This included support for institutional, organisational systems and professional staff development.

There are a range of methods available for eLearning ranging from self-study to mentor-led learning. eLearning can utilize tools such as social learning, simulation and gaming. Choosing the right eLearning methods, depends upon the need's analysis of the organisation and upon the nature of the audiences and their collaboration methods. This Textbook will guide mentors in designing, developing and delivering mentor led eLearning utilizing a range of tools.

The mentor lead eLearning methodology included in this Textbook will assist mentors in developing learning content that is learner-centred, engaging, interactive and personalised; even though is oriented towards mentor-led eLearning this methodology could be used to develop learning content for other types of eLearning.

As a part of the operationalisation of its strategic plan 2014-2018, the IDI launched the enhancing eLearning programme. Under the programme, the IDI has developed its own mentor led eLearning methodology, using the core principles of a systematic approach to training after adapting it to eLearning. The enhancing eLearning capacity programme provides support to regions and SAIs, creating certified pools of eLearning specialists. These pools of eLearning specialists were trained in the use of IDI's mentor led eLearning Methodology developed by IDI.

# Purpose of the Textbook

This Textbook is written to document IDI's mentor led eLearning methodology. This Methodology is the base for IDI eLearning specialists Certification Programme.

The mentor led eLearning methodology described in this Textbook can be used by SAIs and regions as well.

# Structure of the Textbook

This Textbook focuses on formal adult learning, specifically on structured courses designed to address job-related topics.

The Textbook is divided into two main parts:
Part I – Describes eLearning, places it in the wider context of capacity development support and blended solutions, discusses eLearning approaches and articulates IDI's mentor led eLearning approach in terms of key principles, process, role players and their roles, and a competency framework for eLearning specialists.

Part I also provides advice on strategic decisions related to eLearning.

Part II – Provides detailed practical guidance on using IDI's mentor led eLearning methodology to analyse eLearning needs; design, develop and deliver eLearning courses; and monitor, follow up and evaluate whether envisaged outputs and outcomes have been achieved.

# CHAPTER 1

# eLearning and the IDI mentor led eLearning Framework



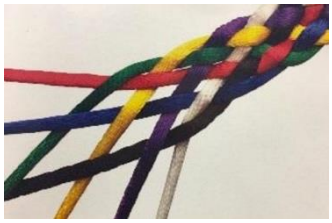
## 1.1 eLearning defined

eLearning is the delivery and administration of learning opportunities and support via computer, networked and web-based technology; and, more recently, mobile learning, using tablets and mobile phones to help in individual performance and development (IDI, 2009). This learning modality is supported or enhanced by the use of appropriate information and communication technologies.

## 1.2 eLearning fabric

Any eLearning course draws together many different threads to weave its fabric. Like a child building with pieces of Lego, the designer of an eLearning course has the freedom to define the elements of the course. Looking at it from a learner's perspective, an eLearning course may be self-led, where the learners are provided with content that they can interact with at their own pace and time. The content itself may be highly interactive, requiring the learner to do many things, or the content may be more in the form of reading text, videos and audio, where the learner is passive. The content can be delivered through stand-alone mechanisms such as CDs, DVDs, and flash drives, or the content may be delivered online or via mobile phones. The learners' progress may be tracked through a learning management system. The media used for self-led learning may also vary. In some cases, it may be mainly text. In others, audio or video or both may also be available.

A different learning experience would be when the learner interacts with a mentor/facilitator and not just with content. Such an experience may itself have many variations. The content for such eLearning may be very interactive, where the learner learns by doing and experiencing. The content could also be passive, where the mentor teaches the learner mainly through lectures or by requiring the learner to read through large volumes of text. Most learning experiences that involve a mentor would generally have a learning management system, where the learner's progress can be tracked. The use of media can also vary in such mentor-led experiences. It can range from only text to audio, video, webcasts, webinars, discussion forums, case studies, simulations, virtual classrooms, etc. The mentor-learner interaction may be asynchronous (i.e. not in real time) or synchronous (i.e. in real time). Chats, shared whiteboards, video and audio conferences, virtual classrooms, live webcasting and polling are some of the tools that can be used for synchronous learning interaction. An eLearning course may also have a blend of self-led and mentor-led learning.



The IDI has experimented with various eLearning solutions since 2005. We have used virtual classrooms, interactive content delivered through web and CDs, learning management systems, etc. The IDI currently uses a blend of eLearning and face-to-face interventions as a part of its overall learning delivery. Such blended learning solutions are embedded within more comprehensive capacity development programmes that contain a number of other support elements.

As such, the eLearning fabric or blend of an organisation is based on the objectives of eLearning for that organisation, the resources available and the profile of the users. This brings us to our next question: how can we use eLearning in the INTOSAI community?

INTOSAI IDI DEVELOPMENT INITIATIVE

ENHANCING eLEARNING CAPACITY PROGRAMME

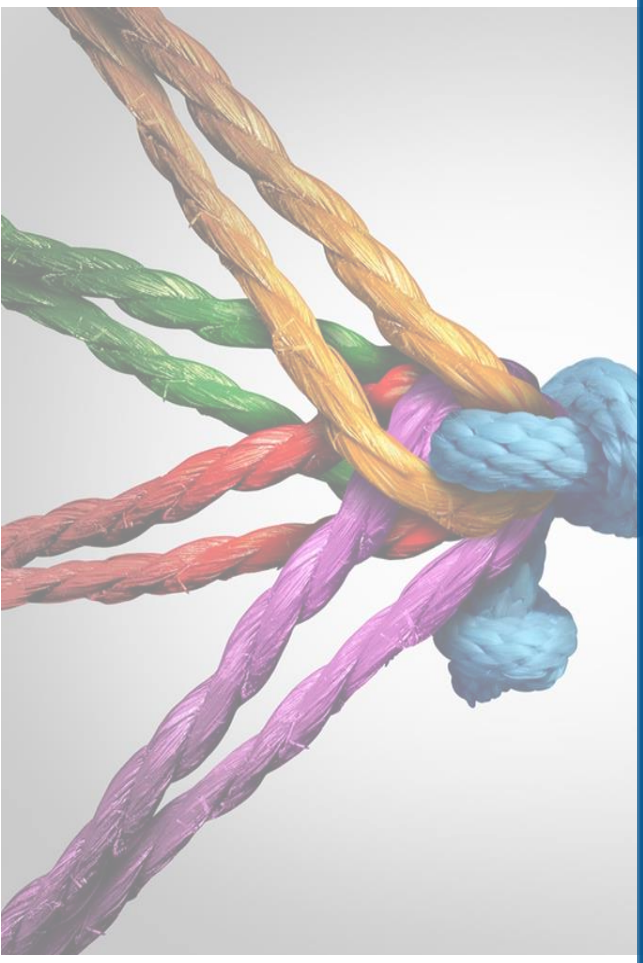
# 1.3 Value and benefits of eLearning for SAIs, regions and INTOSAI

Based on its own experience, the IDI advocates the use of blended learning solutions by SAIs, regions and INTOSAI bodies. We would like to explain the value delivered by eLearning by drawing the value chain that links eLearning solutions to the contribution of SAIs' delivery of value and benefits for the citizens. In order to deliver value and benefits, SAIs need to show performance in a number of areas—implementation of ISSAIs, stakeholder management, internal governance, leadership, etc. Such performance enhancement requires capacity development in terms of institutional capacity (i.e., mandate and legal framework), organisational systems capacity in terms of well-functioning systems and structures within the SAI, and professional staff development (i.e. competent and motivated staff). SAIs, regions and INTOSAI bodies such as the IDI can use eLearning as a means of supporting capacity development or developing capacity in all three areas mentioned above. For example, IDI designed and delivered an eLearning course on audit of disaster management, to support SAI teams in enhancing their professional capacities in terms of knowledge and skills to conduct an ISSAI-based performance audit of disaster management.


The IDI also used the eLearning platform to provide support in planning and conducting the audit, which would enhance the organisational system for conducting ISSAI-based audits. Similarly, OLACEFS also used its eLearning platform to support cooperative audits. AFROSAI-E has distributed stand-alone material for learner-led, on-the-job aid for financial audit. The EUROSAI Task Force on Audit and Ethics effectively used IDI's platform for conducting its meetings. Many SAIs use eLearning solutions as a part of their professional staff development strategy.

| + Benefits | − Challenges |
|---|---|
| •Outreach | •Requires methodology, technology & management |
| •Anytime | •Human resources with right know how |
| •Standardised | •Allocating time for eLearning |
| •Personalised | •Immediacy of interaction |
| •Cost effective | •Not suitable for all types of learning |
| •Environment friendly | |
| •Inclusive | |
| •Flexible | |
| •Documentation | |

As such, blended solutions can be a key component in learning and knowledge-sharing solutions that lead to enhanced SAI performance. Blending eLearning solutions into larger capacity development solutions may have a number of benefits and challenges.
Such solutions have the benefit of greater outreach in terms of the number of people that can access the course. For example, more than 200 participants were trained at the same time in the three ISSAI certification programmes. Participants can access the platform anytime during the course. As the courseware is available on the platform, it facilitates a standardised delivery to all participants. While in a classroom it may not be possible to address individual requirements, it is possible to personalise eLearning to suit the requirements of individual participants. IDI has found eLearning solutions to be not just cost effective but also resource effective, in terms of the administrative resources required. eLearning is also environmentally friendly in terms of reducing both the use of paper and travel. On many occasions, women participants are not able to travel to face-to-face workshops, for several reasons.



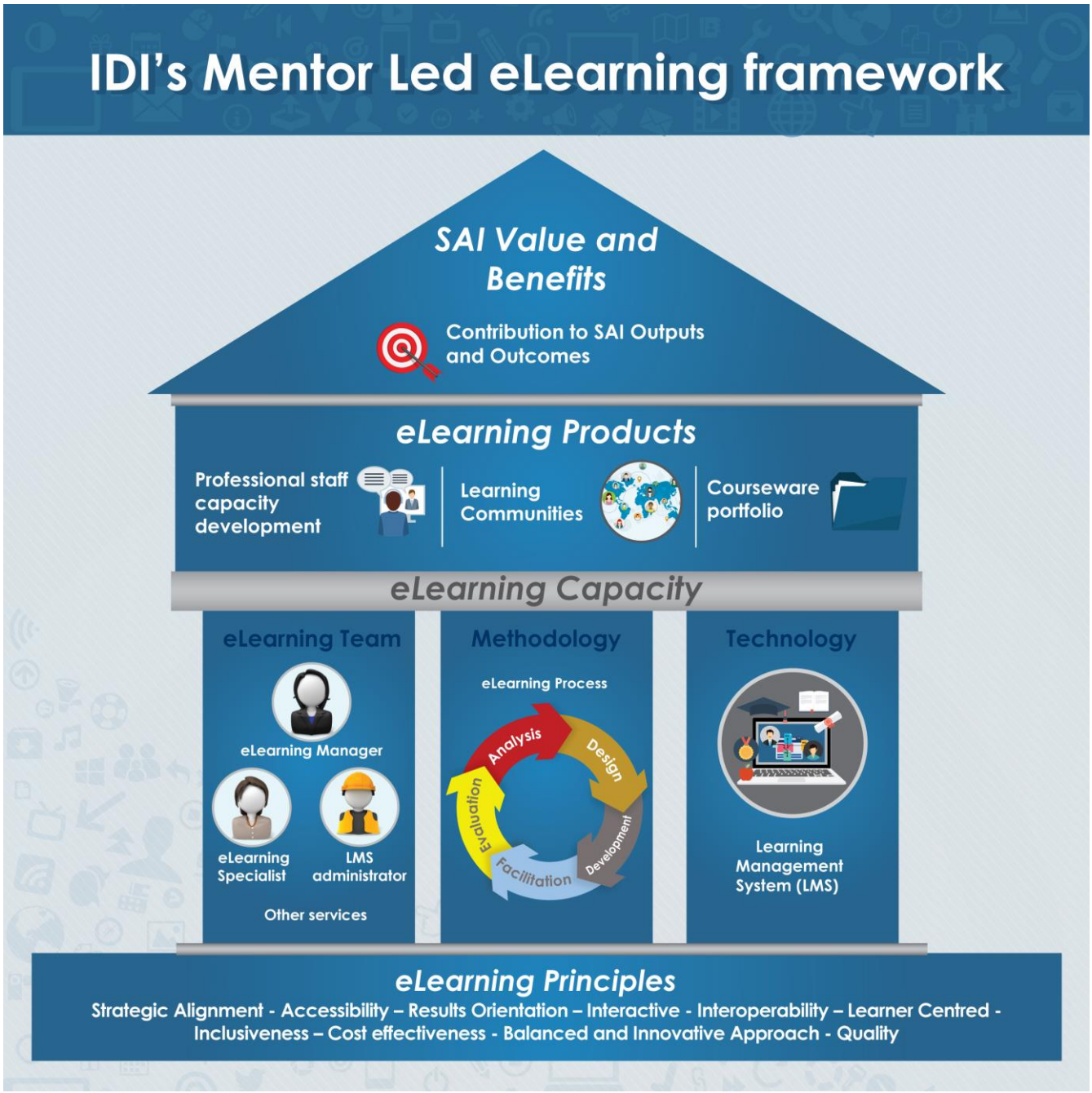
The IDI has experienced that eLearning solutions provide women participants with a greater ability to participate; for example, one of the participants in the ISSAI certification programme was able to successfully complete the programme despite her pregnancy, as she had access to the learning platform. This solution also allows greater flexibility in terms of when and how participants can access the course. Since the dialogue and interaction are recorded or documented, the participants can always go back and refer to the discussion on key issues. Those who miss the sessions have the option of viewing recordings, in the case of virtual classrooms. This facility also helps in the next rounds of the course, where a new set of mentors has ready access to not only the designed course material but also the interactions on the platform.

While a blended solution has distinct advantages, it also has specific requirements that can prove to be challenging, especially when just starting out. As we will see in the next section, successful eLearning requires good methodology, technology and management. This implies that any organisation planning to set up eLearning would need to have its own platform or outsource a platform; and would need people who can run the platform, define methodology, and be able to apply the methodology. It would then need to have managers who can manage the entire process. Over the years, IDI has developed its own capacity to do this. Writing this Handbook is one of the ways in which the IDI seeks to support interested regions and SAIs in setting up such capacity.

It has been the IDI's experience that participants find it difficult to get time away from their regular responsibilities and thus find it difficult to allocate the time needed for learning on the platform. In the case of asynchronous eLearning, a participant may also have to wait to get feedback from the mentor and could possibly miss the benefit of immediate interaction. The IDI has also experienced that eLearning is not suitable for development of all types of skills—e.g. facilitation skills are best learned face to face. This makes it important to decide on the blend while designing the learning solution.

## 1.4 IDI's Mentor Led eLearning framework

As mentioned in the previous section, it is possible to use blended learning solutions to support capacity development in all three aspects and thereby contribute to SAI performance in terms of outputs and outcomes.



In order to deliver successful eLearning experiences, the IDI defines the following ten principles as the foundation of successful eLearning:

### Strategic alignment

Investment in training can be very high and for that reason any investment in eLearning must be in line with the organisation's strategic priorities and planned objectives. This alignment ensures that professional staff and the different divisions within the organisation are jointly working towards achieving the organisation's goals. The alignment process should ensure that the business objectives, performance objectives and learning objectives for the eLearning are aligned. For example, if the SAI has stakeholder communication or ISSAI implementation as a part of its strategic plan, it would be worthwhile to set up or access eLearning solutions that help build capacity in this area.

### Accessibility

The eLearning experience is most effective if it can be easily accessed by the learner. This means that while designing a course, the infrastructure available to the participants needs to be kept in mind. Time zone differences, language and time available are also important factors to be addressed. While delivering a solution for participants in countries with poor internet access or power cuts, it would be necessary to ensure that the bandwidth requirements are manageable, and synchronous learning elements are limited.

### Results orientation

An eLearning programme needs to define the learning objective that will be met by the learner, the enhancement in the learner's performance due to the learning and the outcome at the SAI level because of the learning. e.g. IDI provided eLearning course for SAI teams to enable them to conduct an ISSAI based performance audit of disaster management. While each module in the programme had a learning objective, which was measurable, the SAI team conducted an audit based on the learning and the SAI published the audit report.

### Interactive

The content of the eLearning activity should allow the learner to give, receive and discuss information. Research shows that competency levels and retention levels are higher with more interactivity (Bersin, 2004). The extent of interaction is dependent on the objective of the eLearning activity. There are many ways to provide interaction. The learner can interact with content, with other learners and with mentors. The IDI model provides for all three types of interaction in its eLearning courses.

### Interoperability

This principle can be defined as the ability of a system or a product to work with other systems or products without special effort on the part of the user. When choosing a Learning Management System (LMS) platform, it is essential to consider this feature. Otherwise, the content developed will be "locked" in the system and cannot be accessed in a different system. Also, for the same reason, when developing eLearning solutions, it is important to make them interoperable by design.

### Learner centred

The learner should be the focus. The eLearning content and activities should be user-friendly, simple and easy to understand, culturally sensitive, challenging and stimulating. The eLearning content should be relevant to the learner's learning objectives.

### Inclusiveness

This principle refers to treating the learners equally. For the IDI, it is crucial to consider different languages and cultural issues when developing the programmes. The IDI also has a gender policy, which promotes gender equality and women's empowerment in all IDI interventions.

### Cost effectiveness

The ability to reproduce courses by making adjustments is a key advantage of using an LMS. There are also savings through the reduction in travel, accommodation and logistical costs. The use of open-source tools in the implementation will also generate savings.

### Balanced and innovative approach

The IDI constantly strives to find new ways to improve and meet stakeholders' needs. Having the right blend in the interventions provides effective and efficient capacity development programmes, which are based on the needs of the learner. Having a learning environment that provides creative tools with the use of available new methodologies and technologies should provide the learner with a meaningful, memorable, and motivational experience. It is important to engage learners using real life work experiences to facilitate understanding. The IDI aims to support SAIs by fostering innovation in audit and educational practices leveraging on technological advancements

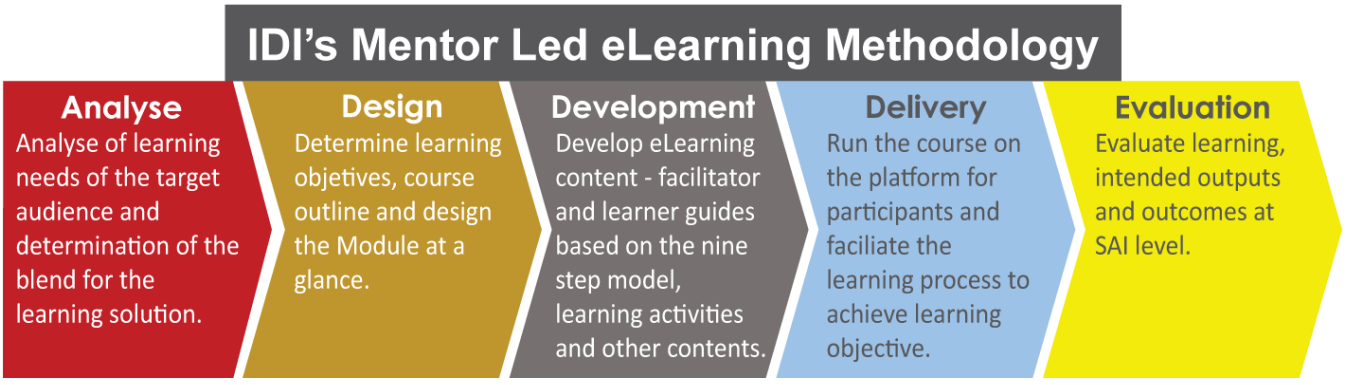
### Quality

Quality is a measure of the excellence that can be brought about by consistent compliance with certain standards. This should be embedded in all the components of an eLearning programme. Factors such as design, development, delivery and evaluation, as well as the quality of learning material, methodology, media and technology, should be assessed. Quality also determines how much and how well the learner develops. Continuous improvement through feedback, lessons learned and collaboration is an important part of ensuring quality.

**Based on the principles, an organisation needs capacity to deliver successful eLearning. We can look at this capacity in terms of three key aspects.**


**eLearning management** refers to having in place systems, a process and people to manage the entire eLearning experience. At the organisational level, this means that the organisation has an eLearning policy linked to its learning and growth strategy, which is aligned to the strategic objective of the organisation. At the level of the individual eLearning course, it means that there is a mechanism for deciding on the eLearning portfolio of the organisation and managing the technical and human resources required to ensure successful eLearning.

**Mentor led eLearning methodology** refers to the process of designing, developing and delivering eLearning. The IDI's mentor led eLearning methodology is based on the systematic approach to training and involves the five stages of analysis, design, development, delivery and evaluation. Besides the steps in the process, a systematic approach to eLearning also includes a learner-centred design and facilitation approach.




**eLearning technology** refers to the learning management system and the authoring, publishing and other software and hardware necessary to design and deliver eLearning. The IDI recommends use of open-sourced software that is suitable for the needs of the organisation.

Some eLearning specialists refer to quality standards that are appropriate in their environment. There are two main types of quality standards. Courseware design standards refer to different aspects of course design and development and technical standards refer to the deployment of courses on an LMS. There are no common overarching standards at this point but an IDI eLearning specialist will follow the IDI Learning Methodology

# 1.5 eLearning team

In order to successfully implement the above-mentioned three aspects of eLearning on a sustainable basis, an organisation would need the following eLearning team:

**eLearning manager –** An eLearning manager typically puts in place systems, processes and resources required for eLearning. He/she decides on the eLearning strategy of the organisation, ensures strategic alignment and determines the eLearning portfolio. In the context of individual eLearning courses, the manager oversees and manages the entire eLearning process right from analysis to evaluation. An eLearning manager also takes decisions regarding when to outsource, what to outsource and the partnerships that need to be fostered. In the IDI, each manager of capacity development plays this role in the context of the blended solutions that he/she manages as a part of the programme.

**LMS administrators –** Learning management systems administrators create and manage the learning management system to ensure a seamless eLearning experience for the learner. The IDI is in the process of creating pools of LMS administrators based on the demands of the regions and the SAIs. As this will not be a competency-based certification programme, the IDI has not defined a competency framework for LMS administrators. However, the IDI has identified the key role of an LMS administrator. An LMS administrator is responsible for installing and configuring the LMS and for managing the learner's access and interaction within the LMS platform. Before the programme commences, learner registration and access to the eLearning platform are required. Creating user accounts, configuring roles and responsibilities and providing online access instructions will be done by the LMS administrator. During the design and development phases, the LMS administrator could provide insights about what tools and resources to use, create and organize courses, and populate content, assuring that the content format is compatible for most of the users. During the delivery phase of the programme, this person ensures that the learner's participation is progressing smoothly. If the learner has any problems accessing, for example, PDF files or opening video files, the LMS administrator will provide online assistance, troubleshooting support and guidance. This person is also responsible for managing the front page, configuring the site-wide and default settings, and managing upgrades, maintenance, security and backup.

**Other players** – Besides these three key players, an organisation would also need hosting and maintenance services for the LMS and graphic designers to work on the design of different content to be uploaded on the LMS. These services are usually not very expensive; the IDI recommends that an organisation outsource them. However, it is necessary to have a clear view of organisational requirements and to procure these services in a competitive manner.

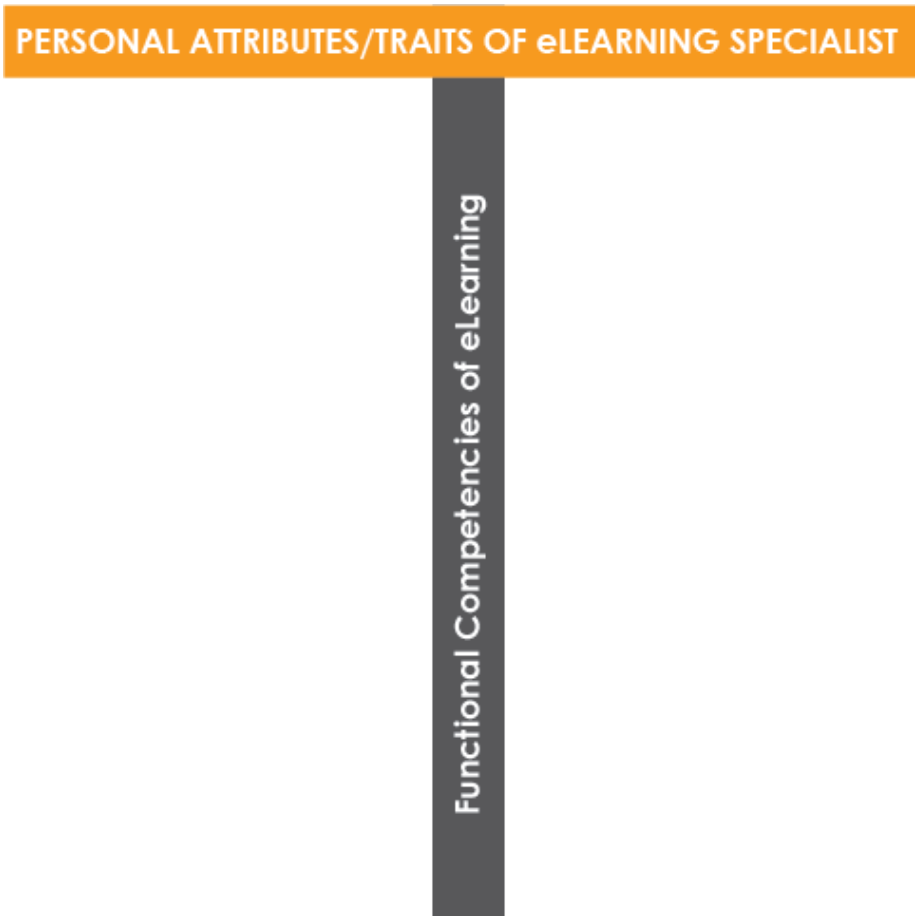
In some cases, besides eLearning specialists an organisation may need to bring in subject matter experts to provide in-depth comments on the subject matter. In the IDI model, we recommend that eLearning specialists selected to form the team also have subject matter competencies. In our experience it works better if the eLearning skills and the subject matter knowledge are available in the same person. For instance, if the subject matter of the eLearning programme is performance audit of public debt, then a subject matter expert should possess the appropriate knowledge and expertise in the field of performance audit and public debt. Additionally, the same person should be able to design and develop the content of the programme as well as deliver the programme.

It is also possible to outsource the tasks performed by eLearning specialists and LMS administrators. In IDI's experience it is more beneficial to develop these capacities at a regional or SAI level, for reasons of both cost effectiveness and achievement of desired outcomes of the eLearning programme, which is a part of larger capacity development efforts of the SAI or the region.

**eLearning specialists** – An eLearning specialist is a person who analyses eLearning needs for a specific programme, designs and develops eLearning courseware as per the prescribed formats and methodology of the IDI, facilitates and supports participants during the delivery of the eLearning course and evaluates learning during the eLearning course. The IDI is developing a certification programme for eLearning specialists to create regional pools, which would be available to the SAIs, regions and the IDI. The IDI has identified the set of key competencies (knowledge, skills and attitudes) identified below for an eLearning specialist. In defining these competencies, the IDI has used a T-shaped people concept where the horizontal bar defines the personal attributes and traits and the vertical bar defines the functional knowledge and skills of an eLearning specialist.

## Competency Framework of eLearning Specialist

| T- shaped Model |
| --- |
| In this competency framework model, each competency defines a T-shaped professional.<br><br>The horizontal bar of the "T" describes the ability of a person to collaborate across disciplines and to use and apply knowledge in areas of expertise other than their own (broad-range generalist skills).<br><br>The vertical bar represents the depth of related skills and expertise in a single field (deep subject matter expertise). |



## Personal attributes/traits of eLearning specialist

| No. | Competencies | Explanation |
|---|---|---|
| 1 | **Has a passion for eLearning** | • Believes in eLearning as a capacity development solution<br>• Demonstrates passion for helping others develop and grow<br>• Engages using different communication media (including social media).<br>• Shows affinity for technology |
| 2 | **Strives for creativity and innovation** | • Willing to explore new thoughts and ideas<br>• Strives to find innovative solutions<br>• Willing to take risks and try something new<br>• Learns from mistakes |
| 3 | **Relates to others** | • Demonstrates respect for different views, ideas and people.<br>• Displays ability to work together in a team<br>• Shows ability to motivate others in the team<br>• Communicates in an open and transparent manner<br>• Is a good listener |
| 4 | **Makes a positive contribution** | • Takes responsibility and shows accountability<br>• Delivers results to quality and time<br>• Behaves ethically<br>• Demonstrates subject matter confidence<br>• Demonstrates language skills, both oral and writing<br>• Displays professional judgement |

## Functional competencies of eLearning specialists

| No. | Competencies | Explanation |
|---|---|---|
| 1 | **Demonstrates understanding of IDI's systematic approach to eLearning** | • Demonstrates understanding of eLearning concepts, approaches and theories related to adult learning<br>• Demonstrates sound understanding of IDI´s eLearning framework, 5 phases of mentor led eLearning methodology and roles and responsibilities of eLearning team |
| 2 | **Demonstrates an ability to use basic features of IDI's LMS** | • Demonstrates understanding of IDI's LMS features and functionalities<br>• Displays ability to blend and integrate different features and functionalities in creating the eLearning blend |
| 3 | **Analyses eLearning needs** | • Determine when eLearning is an appropriate mode of learning<br>• Writes performances objectives that are appropriate for effectively carrying out the tasks in the workplace |
| 4 | **Designs eLearning courseware** | • Writes learning objectives<br>• Designs course outline and determines the modules in the course<br>• Develops Module at a glance that follows the nine-step model, displaying an innovative blend of eLearning tools |
| 5 | **Develops eLearning courseware** | • Develops eLearning Facilitator Guide<br>• Develops Learner Plan using the nine-step model based<br>• Develops different components of the courseware |
| 6 | **Facilitates eLearning course** | • Facilitates individual and group activities using different features of the IDI LMS.<br>• Monitors and follows up on the participants |
| 7 | **Evaluates eLearning performance** | • Demonstrates understanding of different levels of evaluation (learning outputs, learning outcomes and impacts)<br>• Demonstrates ability to develop eLearning performance measurement plan<br>• Identifies lessons learned and provides suggestions for improvement<br>• Takes corrective actions based on feedback reviews |
| 8 | **Reviews work done by others** | • Reviews the work of others and provides constructive feedback |

## Matrix to map the role of different players and the output at each stage of eLearning

| |  eLearning manager |  eLearning specialist |  LMS administrator | Other players: Graphic designer | Other players: Video and audio editor | Output |
|---|---|---|---|---|---|---|
| **Analysis** | Engages with the team in analysis phase | Member of the analysis team | | | | Analysis of learning needs of the target audience and determination of the blend for the learning solution |
| **Design** | Oversees and manages the design of the course | Member of the design team. Develops the course outline and module outline | Provides insights about what tools and resources to use | | | Determine eLearning objectives, course outline and design the module at a glance and learning plan |
| **Development** | Manages the development of the course modules | Member of the development team. Develops the course module material, learning content, activities as designed in the design phase, course communication material | Installs and configure the LMS<br>Manages the learner's access and interaction within the LMS platform<br>Sets up eLearning course by uploading in the LMS all course content and the learning activities and resources provided by the eLearning Specialist | Creates graphic design of different content to be uploaded in the LMS | Creates multimedia content for the eLearning course | Develop eLearning content—facilitator and learner guides based on the nine-step model, learning activities and other content |
| **Delivery** | Manages the delivery of the course | Mentors the participants, facilitates the learning process, evaluates the submissions of participants, coordinate with the manager on the performance. Provides feedback to the participants | Provides online assistance, troubleshooting support and guidance | Creates graphic design of the different content to be uploaded in the LMS | | Run the course on the platform for participants and facilitate the learning process to achieve learning objective |
| **Evaluation** | Manages the evaluation of the learning in the programme. Measure the output and outcome | Evaluates the learning of the participants during the module and after the course | Generates reports | | | Evaluate learning, intended outputs and outcomes at SAI level |

## 1.6 eLearning in regions and SAIs

Based on our experience, we recommend that all INTOSAI regions that provide capacity development services to their member SAIs, consider eLearning solutions. We also recommend that eLearning courses be blended within a larger programme to facilitate SAI-level outcomes. A team of eLearning managers, eLearning specialists and LMS administrators would be necessary to design, develop and deliver such courses.

We recommend that an SAI set up its own eLearning platform and portfolio of eLearning courses if:

- The SAI has a large number of staff that need to be trained on a regular basis
- The SAI has geographically dispersed offices and training facilities
- The SAI has the possibility to put together required IT, financial and human resources
- Learners are IT savvy
- eLearning contributes to the strategic objectives of the SAI

## 1.7 Summary

In this chapter, we examined the basic principles and aspects of eLearning and the IDI's Mentor Led eLearning framework. In particular, we discussed the value and benefits of eLearning for SAIs, regions and INTOSAI, the IDI's Mentor Led eLearning framework and eLearning Principles; and the Competency Framework of eLearning Specialist.

## References

Bersin, J. *The Blended Learning Book*. San Francisco, CA: Pfeiffer (2004)
IDI, *E-enabled Blended Training Programme for Trainers*. eLearning Course (2008)
IDI, *Learning for Impact* (2009)

# CHAPTER 2

## Analysis Phase



## 2.1 eLearning course analysis

As explained in chapter 1, developing an eLearning course includes five phases:

1. Analysis
2. Design
3. Development
4. Delivery
5. Monitoring and evaluation

In this chapter we will cover the analysis phase. Subsequent chapters will provide more details on the next phases.

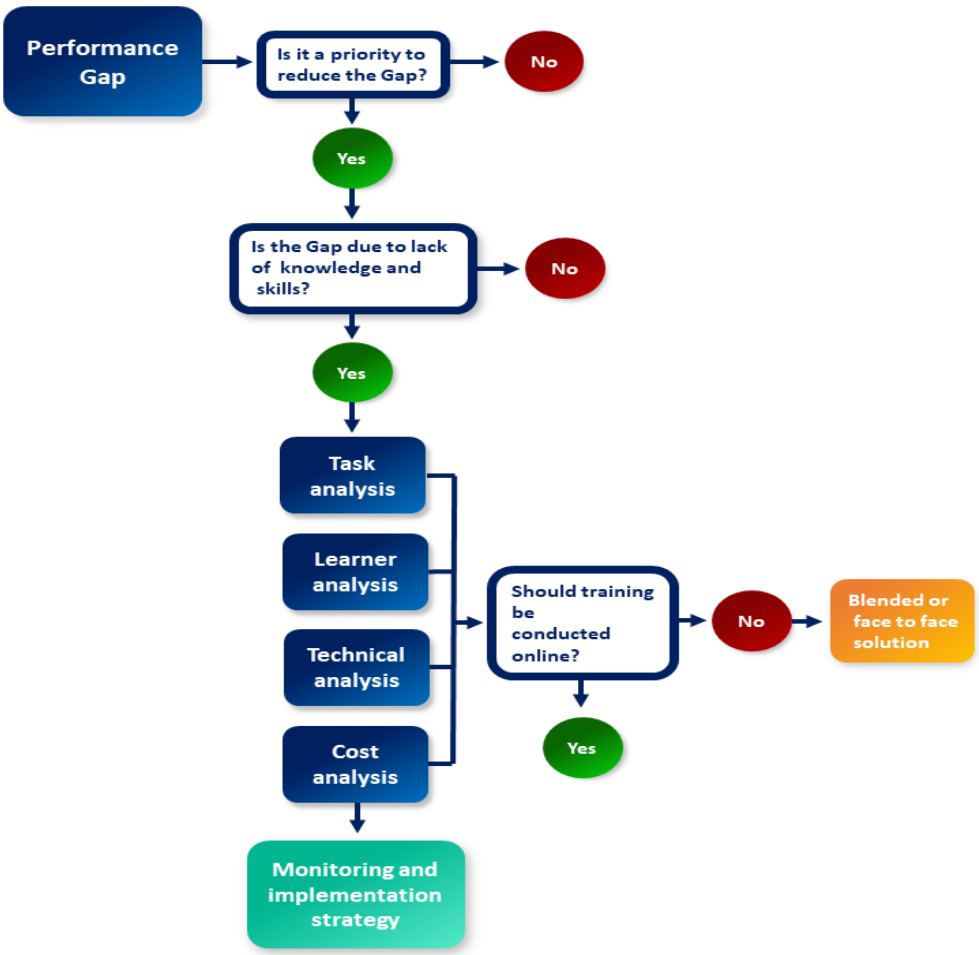
## 2.2 What the analysis phase is

The analysis phase is initiated after a gap between a current and a desired performance of the SAI is discovered, and after the SAI decides that it is a priority to reduce that gap. Gaps can be discovered, for instance, on the occasion of conducting an iCAT or a SAI PMF or on the occasion of assessing the SAI's needs as part of a strategic planning process. Due to limited resources and limited capacity to absorb change initiatives, SAIs do not systematically decide to fill all gaps. They often go through a prioritisation process to decide which gaps need to be resolved as priorities.

At the analysis phase, key decisions about the eLearning project are made. The information gathered at this stage will be used throughout the subsequent steps. One more benefit of the analysis phase is that it provides an opportunity to re-question the option for eLearning and may reveal that face-to-face or blended learning is more relevant.

At the analysis phase the following steps are followed:

- Checking the need for training
- Conducting task analysis
- Conducting learner analysis
- Conducting technical analysis
- Conducting cost analysis
- Planning for monitoring and evaluation



### Checking the need for training

Many believe that training is the best solution to many problems in the SAI. The reality is that many problems in the SAI do not require training solutions, simply because they are not training problems. For instance, training cannot help when auditors do not apply the SAI audit manual because it is not widely distributed, or when they produce poor audit reports because they are denied access to information, or when they are frustrated because of working conditions. Training can help only when the problem is that SAI employees lack the knowledge or skills to perform a required job task satisfactorily.

Training, be it online or face to face, is only one of several solutions available to address a performance gap. Before designing and developing a training programme in response to a performance gap, it is first necessary to gather more information to identify the "real" problem that initiated the gap and to check whether training is needed in a given situation. If not, management should act in other ways, such as reassign duties, change procedures, update tools and equipment, coach their staff, take disciplinary action, provide feedback, reorganize work-flows, offer incentives, etc.

## 2.3 Conducting task analysis

When it is confirmed that training is needed, the next step is to conduct a task analysis.

Task analysis examines how a job should be performed to reach a high level of efficiency: the steps to take and their proper sequence, the tools or job aids to use, the performance standards to meet, and the working conditions to provide for maximum performance. With the information from this analysis, eLearning specialists can determine how best to train people to perform the task well.

The task analysis process uses the following steps:

**Step 1** — Identify the major tasks or activities.

**Step 2** — Develop performance objectives.

**Step 3** — List the steps required to complete each task.

**Step 4** — Identify the skills and knowledge required to effectively complete each task.

**Step 5** — Rate each task to determine its priority.

The results or "products" that emerge from the task analysis are:

- A performance objective, describing what needs to be done, what conditions influence the task (e.g., tools, manuals, support, etc.) and what standards determine successful completion of a task
- A complete task list, including steps required to complete each task, the skills and knowledge required to carry out each task, and a priority rating to help decide which tasks should receive emphasis in the training programme.

These elements are critical in ensuring that our eLearning course design is successful.

Another advantage of task analysis is that it may encourage course designers to reconsider their initial choice of eLearning. This is when task analysis may reveal that some elements of the course are about skills that would more effectively be learned in a face-to-face scenario. In fact, while knowledge components can be taught very effectively through eLearning, it may not be the best way to learn some types of skills. As a result of a task analysis, designers may decide to opt for a blended solution.

## 2.4 Conducting learner analysis

Learner analysis helps eLearning course designers understand their audience to serve them most effectively. It provides designers with the information they need to ensure that they communicate in a way their learners will understand.
One step in conducing learner analysis is to establish which issues related to learners may influence the success of the eLearning course, why, and what can be done vis-a-vis each issue. A matrix like the one in the table below facilitates the conduct of the analysis.

| Issue | Influences success? Yes or No | Why? | What should be done? |
|---|---|---|---|
| Language | Yes | Most learners are not native speaking | Use a simple language |
| Age | Yes | Many seniors are computer illiterate | Seniors should be trained face to face instead of online |
| Religion | Yes | In Muslim countries most SAI staff have their vacation in the month of Ramadhan | Avoid having eLearning courses in Ramadhan |
| Gender | | | |
| Education | | | |
| Motivation | | | |

Learner analysis is also useful to find out what the learners already know about the subject. Knowing where the learners stand regarding the subject helps the designer decide how much or how little they must be taught. If learners know more about how to collect audit evidence than about how to document audit evidence, the eLearning course designer will put more emphasis on documenting than on collecting audit evidence. Without the learner analysis, there could be a lot of wasted effort teaching participants something they already know.

Learner analysis also checks whether learners have the necessary computer skills to access and complete the course. If they don't, designers reconsider the option of eLearning instead of face-to-face training.

## 2.5 Conducting technical analysis

eLearning requires technology, but technology is not equally accessible to everyone and every SAI. Some SAIs may face challenges to affording computers or providing easy internet access for their staff. The technical analysis identifies the hardware and software specifications that an eLearning course must accommodate without compromising the ability of all intended learners to easily follow all course components. Where there are risks that the learners would miss some parts of the course due to technology limitations, course designers should reconsider their initial selection of eLearning.

## 2.6 Conducting cost analysis

In many cases it is true that eLearning is more cost effective than face-to-face training, as eLearning does not require extensive travel costs or accommodation for large numbers of employees and it allows learners to participate no matter where they are located geographically.
In reality, it depends on the nature of the SAI, the geographic spread of learners, the number of times the same course could be duplicated, etc. For small SAIs with only a few potential learners, perhaps based in one or two locations, the economies of scale may not favour eLearning. Moreover, the start-up costs associated with an online learning programme can often be cost prohibitive for many SAIs.
The analysis phase is phase where the cost-effectiveness of eLearning can be re-questioned, as it is at this phase that course designers get more clarity about aspects that could impact on the cost of the e-course per capita, such as the number of expected learners, etc.

## 2.7 Planning the evaluation and monitoring strategy

Although the training is not monitored and evaluated until it is underway, analysts plan their evaluation strategy early in the process before training begins. Information from the needs analysis is used as a "pre-course" measure to test the effectiveness of the training against "post-course" readings.

An evaluation strategy includes a four-level evaluation. At each level, the evaluator gathers valid and reliable evidence on which to form his or her judgments regarding the success of the e-course.
**Level 1**: Did participants like the course? This question covers all aspects: course content, methods used, performance of the mentor, and so on.
**Level 2**: Did participants learn? What evidence must be gathered to evaluate whether participants can perform the learning objectives for each module?
**Level 3**: Did participants use and transfer to the workplace what was learned?
**Level 4**: Did the training achieve its intended impact? Did the eLearning course produce the desired effect on organizational performance?

## 2.8 Summary

This chapter refers to the analysis phase of the systematic approach to training. The analysis phase includes task analysis, learner analysis, technical analysis, cost analysis and determining a monitoring and evaluation strategy. In the next chapter we will cover the design phase of an eLearning course based on the completed analysis.

## References


IDI, *Training guidelines for SAI trainers*, 1st edition
IDI, *Learning for Impact: A Practice Guide for SAIs*, Oslo, Norway (2009)
Michael W. Allen, *Guide to eLearning*, Wiley
*https://www.youtube.com/watch?v=JZdv5lrJs4U*
*http://theelearningcoach.com/elearning_design/analysis-for-elearning-projects/*
ISD, *From the Ground Up, A No- Nonsense Approach to Instructional Design*, ASTD Press

# CHAPTER 3

## Design Phase



## 3.1 Overview

In Chapter 2, on eLearning analysis, we learned how to identify and validate organisational performance (knowledge and/or skill) gaps; to subsequently determine performance objectives and the associated process of task analysis; and to determine instructional goals for the eLearning. In real-life scenarios, based on this analysis we may conclude that there is a need to address the existing performance gap and decide to initiate an eLearning course to address the gap. So, the next step after this decision would be to design and develop the eLearning course. This chapter deals with the design phase of an eLearning course.

The design phase is important, as it will enable the resource team to effectively address the SAI learning needs identified in the analysis phase and subsequently lead to achieving the performance objectives by delivering the course. The overall objective of this chapter is to provide a step-by-step process for designing an eLearning course and identify the key issues and considerations in designing a course.

The first step in the design phase is to decide on the overall structure of the eLearning course, with the list of possible course modules. The next step is to decide on the individual module learning objectives and the key concepts to be covered in each module. Based on this, each individual module is designed with different learning elements and activities. At this point the effective delivery modes for the module are considered. The output document of a module design process is a “module at a glance” or MAAG document. Based on the MAAG, individual elements of the module content are prepared in the development phase.

# 3.2 Considerations before starting to design an eLearning course

To achieve the desired results in delivering the course and achieving the objectives, we need to consider some key issues before starting the design. It is important to consider these not only during the design phase but also throughout the development and delivery phases.

### Resource team is set

To design an eLearning course, it is imperative to have a resource team capable of understanding the SAI's needs and addressing those needs in the design and development of the course. The resource team should have knowledge and experience of the subject matter and methodology concerned in the performance gap that was identified in the analysis phase. Once the resource team is constituted, it will start consultation with the stakeholders, such as SAI management, learners and experts, to better understand the background and expectations for the course. The resource team should determine the possibilities of including various eLearning tools, considering the suitability and the context of the SAI or region.

### 3M rule – make the course memorable, meaningful and motivational

An eLearning course that will create a difference to the learners and to the organization will be memorable, meaningful and motivational (the three Ms). How can we make a course memorable, meaningful and motivational to the learners?

Often, designing a course relies heavily on the content without recognizing the importance of the learners. As a result, the course is not able to achieve the desired objective and fails to improve the performance of the learners. While content is key, it is important to move the focus from the content to the learner and the behaviors we want learners to demonstrate.

In a learner-centred approach, the question we ask is, "What behaviors do we want to see from learners at the end of course?" If you think about it, what really matters is what people are able to do, not what they know. Focusing on observable behavior opens the way to rich conversations about performance outcomes and objectives that are measurable and that matter.

**Making it memorable:** Most people remember things in which they were emotionally engaged. Translating that to the world of eLearning means we need to create situations or scenarios to which learners can react emotionally. If learners engage with the challenges we present in our eLearning courses, they will have an emotional stake in the outcome. This is very important while designing the evaluation exercises based on the learning objectives.

**Making it meaningful**: "What's in it for me?" This is about a desire for learning to be meaningful to the individual learner. If we create eLearning that is meaningful, we don't have to start an eLearning course with a screen that lists the reasons learners should care and pay attention to the learning. A well-constructed, real-life scenario that is related to their work experience will resonate with the learners. Their response will be "That sounds just like my job." And they will want to dig in and learn more from the course.

**Making it motivational:** How do we get people to change their behavior and make use of the new knowledge and skills they've acquired? This is a question about motivation. When we feel confident and competent with new skills, we want to use those skills. How do we build confidence and competence? They are built by giving learners a chance to practise new skills without fear of failure, reprisal, or looking foolish. The course designers can put the learners in realistic situations with real problems to solve, and let them try until they succeed. The beauty of eLearning is that learners have the freedom to try again until they feel comfortable to transfer new skills to real-life situations.

## Follow the adult learning principles

Before we start designing the course we need to know who the learners are. We know that they all are adult learners and that adults learn differently. The approach for them needs to accommodate those differences. To design an eLearning course as learner-centred, we consider six adult learning principles. These principles are related to the elements of creating a memorable, motivational and meaningful course, and while designing the course and modules we need to ensure that they are applied. The principles are as follows.

**Adults bring life experiences and knowledge:** Adult learners are always ready to engage with the facilitator in a dialogue from their own experiences. It is also through these sharing opportunities that they are more inclined and ready to learn new sets of skills and knowledge, especially in relation to these experiences. Course designers should create these opportunities for the learners in the course.

**Adults are goal oriented:** Knowing what their needs are, adult learners enter the learning process with a goal in mind. As such, they generally take a leadership role in their learning and therefore define the nature, extent and direction of their learning.

**Adults are relevancy oriented:** Learning is increased if the adult learners clearly see the benefits of new knowledge and skills to what they already know and can do; to their current work; and, much more, to their future goals.

**Adults are internally motivated and self-directed:** Motivation is an intrinsic process, meaning that the adult learners decide by themselves whether a learning event addresses their needs and interests. The closer the learning event is to meeting these needs, the higher will be the possibility of their participation as well as their chances of learning.

**Adults are practical:** Knowledge and skills to be taught will be meaningful to the adult learners if these focus on the "what" and the "why" and if the examples closely resemble their workplace conditions.

**Adult learners like to be respected:** It is important to appreciate the learners' contributions and life experience. Adults learn best when their experience is acknowledged, and they realize the value of new information when they find that it builds on their past knowledge and experience.

## Ensure engagement in module design

Because eLearning is a self-study medium, interacting with the learner becomes more important than in most types of learning activities. Content engagement refers to how the learner interacts with content of the course. The learning experience is greatly enhanced when different learning activities are incorporated into the learning process.

Engaging exercises or tasks within eLearning can compensate for the lack of an instructor who could add the human touch through personality and verbal interactions. However, like a classroom session, in eLearning courses there must also be a balance of content. Too much engagement, and we risk losing focus on the learning objectives. Too little engagement, and we risk losing the learner's interest in the topic. When attempting to engage the learner in an eLearning environment, we can consider how to:

- Keep activities focused on the course objective.
- Avoid letting the technology overshadow the course objectives.
- Provide additional options/choices for the learner.
- Incorporate interactive graphics such as animations or simulations.
- Use hyperlinks for additional concepts, explanations, or definitions.
- Incorporate skill assessments in the modules, e.g., tests or quizzes.
- Create exciting activities and different methods of interactive learning.

## Balance the content and use of media

At the design phase, it is important to consider how the module learning elements will be delivered to the learners. Though it is a part of the development phase, at the design stage the resource team is required to visualize how the module is best delivered. Considering the 3Ms (memorable, meaningful and motivational), the team should come up with an appropriate way of delivery. The designer can think of a video, a webinar or other methods for the module to communicate the main concept of the module. The designer needs to be aware of the technical possibilities and challenges involved in preparing the different elements of the module.

There must be a balance between the content and the media of delivery. The resource team first needs to develop the key knowledge that it intends to disseminate to the learners. This should be of high quality and conceptually correct. Then the team should decide on how to deliver it. The possible tools that can be used in this are discussed below.

## Make the course material visually attractive

Along with the instructional strategy and learning content, we also need to develop a highly effective visual design strategy to make an eLearning course attractive and appealing. Visuals, when used efficiently, go a long way in delivering high-quality learning. Furthermore, they greatly enhance the aesthetic value of the course, and this creates a good impression on the learner. Visuals such as charts, images, graphs, videos, drawings, illustrations, photographs, and graphics create a positive impact on learning.

Using images makes a lot of difference in eLearning, as it is self-paced. Proper use of visuals helps the learner to comprehend the subject matter of the course in an effective manner. It helps learners to retain information for a long time. However, we need to keep in mind that visuals should always match the objective of the course. Using appropriate images acts as a navigator for the learner, as there will be consistent placement of visual elements on screen. Good visuals help the learner retain knowledge by recollecting the graphics, images and so on. The resource team may not always be responsible for all visuals, but a basic understanding of how they can impact the design of the course is an added advantage.

## Consider IT and other technical attributes

The resource team needs to be aware of the technical aspects of the design, development and delivery of an eLearning course. The learning management system (LMS), the tools, the visual effects, graphics, and media of delivery are all technical in nature and need to be managed by technical staff. However, the resource team should be able to understand the interrelations of all these elements so that they can guide the technical team in finalizing the course material and uploading it on the portal.

Both synchronous and asynchronous learning tools have unique benefits and also limitations in eLearning. To overcome the limitations, two types of tools could be integrated and used to support participant needs. The combination of these two is a blend that the designers need to determine in the design phase.

## Use of eLearning communication tools

eLearning activities can be realized by using a range of communication tools, both synchronous and asynchronous, and blended.

### Synchronous learning tools

In an eLearning environment, many of the learning activities and expectations are like those found in traditional face-to-face training. These learning environments offer meaningful interactions in a face-to-face setting and are most commonly referred to as synchronous learning activities. Lectures, discussions, and presentations occur at a specific point in time, with the expectation that all participants will be available to participate. Synchronous learning environments support learning and teaching and offer participants and teachers multiple ways of interacting and sharing, as well as the ability to collaborate and ask questions in real-time through synchronous learning technologies. Examples of synchronous tools include videoconferencing, webcasts, interactive learning models, and telephone conferences.

### Asynchronous learning tools

In an asynchronous learning environment, participants 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 participants to create, synthesize, explain, and apply the content or skills being taught. Asynchronous tools support learning and allow more time for participant reflection, collaboration, and participant-to-participant interactions.

### Mix of synchronous and asynchronous learning tools

Both synchronous and asynchronous learning tools have unique benefits and limitations in eLearning. In order to overcome the limitations, two types of tools could be integrated and used to support participant needs. The right combination of these two is a blend that the designers need to determine in the design phase.

| Synchronous | Asynchronous |
|---|---|
| • Chat and Instant Messaging<br>• Video and audio conferencing<br>• Live webcasting<br>• Application sharing<br>• Whiteboard<br>• Polling | • E-mail<br>• Discussion forum<br>• Wiki<br>• Blog |

**The most common tools are:**

- e-mail based tools
- discussion forums
- wikis and other shared writing/editing tools
- blogs
- webcasting
- chat and instant messaging
- poll
- Collaborative screen sharing tools
- application sharing
- teleconference
- video conferences

These tools and their applications in eLearning courses are described below. Asynchronous tools, such as forums and wikis, are more appropriate for tasks that require reflection and more time to accomplish. Asynchronous discussions are useful for participants who have language difficulty to collaborate effectively in real-time conversations. However, synchronous tools, like chats or audio conferences, provide a higher social presence. For example, in virtual classrooms, learners can use chats to offer comments and answer questions during the presentation.

## Synchronous learning tools

### WEBINARS:

Known as a web-based seminar. Participants tune in during a live discussion via the internet, where the mentor is explaining a topic or leading a discussion on a subject at a specific date and time. In this way the webinar session is very interactive in that the mentor can give information, receive feedback and discuss a topic.

### CHAT SESSIONS:

It is an online platform that enables real-time interaction. Exclusive chat sessions can be organised between the mentors and all the participants at an agreed date and time. A chat programme can be used in webinars, where participants can interact or ask questions to the mentor during the session.

### TELE/VIDEO-CONFERENCE:

Telephone and video conferencing facilities between mentors and participants at an agreed time and date during the course.

### WEBCAST:

Webcasting is “broadcasting” over the internet. A webcast is a media presentation distributed over the Internet using streaming media technology to many simultaneous participants. It may be distributed either live or on demand. The difference from a webinar is that in a webcast, the delivery is one way from the mentor to the participants and there is no interaction.

All the examples of Synchronous tools detailed above allow the possibility to recording the sessions. The access of this recordings can be considered as asynchronous activity.

## Asynchronous learning tools

### DISCUSSION FORUMS:

It provides a platform for conducting discussions on a module topic. Participants can access an exclusive online platform where they can post comments and respond to topics created by the mentors. The discussion forum platform creates the space for wider discussion on the comments submitted by others. It also enables one-to-one interactions between the mentors and participants.

### ONLINE QUIZZES AND SELF ASSESSMENTS:

An interactive online testing environment where the mentors can create quizzes/tests for participants to access and test their understanding of the topics. The online quiz can provide real-time feedback during the test, with answers and explanation of the topics covered during the quiz. Forms can be multiple choice quizzes, short question/answer sessions, etc.

### PRACTICAL ASSIGNMENTS:

Specific tasks/activities designed by the mentor for the participants to carry out to supplement teaching materials. Usually activities/assignments require feedback from the mentor on how the participant performed the activity or assignment.

### AUDIO VISUAL MATERIALS:

Audio, videos or movies demonstrating or explaining a topic overview or a recording of a lecture or PowerPoint slides that was done previously.

### READING TEXT:

In this method, participants will usually have to read a text and understand the background, basic concepts or topics covered in the course modules. Most contents are elaborated inside the reading text.

## Additional learning materials:

### FREQUENTLY ASKED QUESTIONS:


Summary of popular and frequently asked questions (both technical and administrative).

### FURTHER READING MATERIALS & RESOURCES:

An area for the participants to access and obtain further details or links to expand on the same topic if needed. For example, readings, books, texts, links on the internet, etc.

### GLOSSARY:

Standard explanation of terminologies or acronyms used throughout the course materials and discussions.

## Asynchronous learning tools

### CASE STUDIES:

Real-life and practical scenarios to further demonstrate and show how to apply the theoretical aspects of the materials and key learning points of the module throughout the course. The case study enables the participants to practice the various concepts being taught during the course.

### PRESENTATIONS:

Presentations are used to describe the key learning points. Sometimes this can be used as a replacement for reading ext. In that case voice can be added with the presentation to make it explanatory.

### WIKI

It is an expandable collection of interlinked web pages that allows any user to quickly and easily create and edit content. With a wiki, students are sharing information and experiences with other participants and facilitators. They can collaborate online with one another, work together as a group, and review each other's work. The wiki also provides an effective communication tool among a group of learners. The information published on wikis have higher risk of being inaccurate, if the person publishing it doesn't verify the information properly.

# 3.3 Relationship between task analysis and eLearning course design

The outputs from the task analysis described in chapter 2 are:

- a performance objective, describing what needs to be done, what conditions influence the task (i.e., tools, manuals, support, etc.) and what standards determine successful completion of a task;
- a complete task list, including steps required to complete each task, the skills and knowledge required to carry out each task, and a priority rating to help decide which tasks should receive emphasis in the training programme.

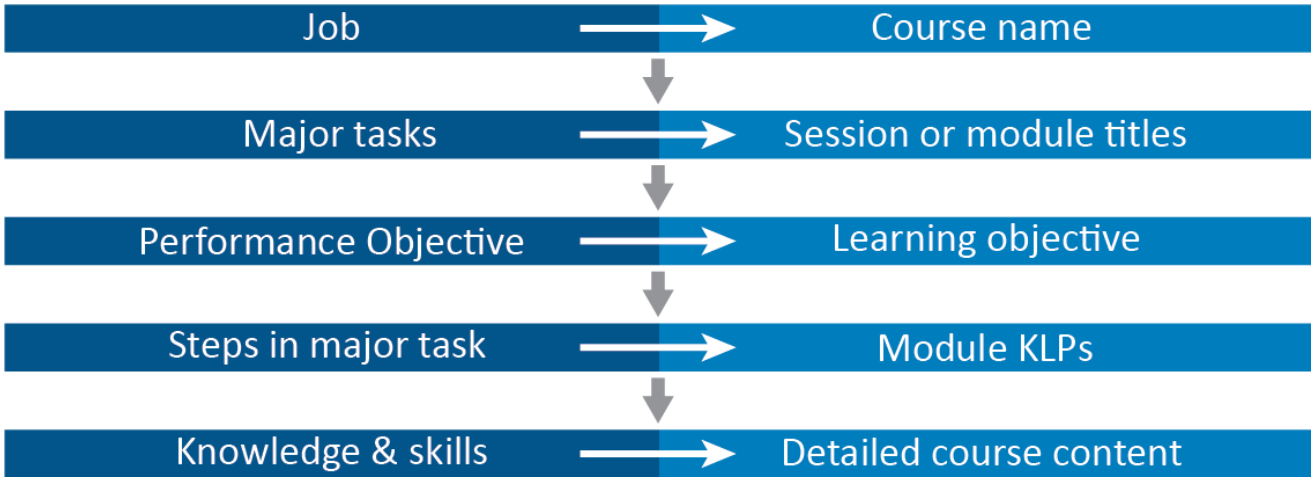
These elements are critical in ensuring that eLearning course design is successful. Course design is a systematic process that logically follows the task analysis. Each element in the task analysis has an effect in the course design steps.
Elements of task analysis are as follows:

- The job to be analysed
- Major tasks required to be achieved in the job
- Performance objective for each major task
- Sequenced steps in performing each major task
- Knowledge and skills required to effectively complete each task

Elements of a course design are as follows:

- Name of the training or eLearning course
- Title of each session
- Learning objective of each session
- Key learning points (KLPs) required in each session to achieve the learning objective
- Detailed training or eLearning content to be developed

The one-to-one relationship between the elements of a task analysis and those of a course design are shown below:



# 3.4 Design of an eLearning course structure

The structure of a course plays a critical role in how the audience learns the material. During the design phase, the resource team brainstorms what key learning is desired and how the eLearning course should be organized and structured to achieve the learning. At this stage, the team determines the overall course learning objective, that is, what to achieve from the course. Once that is done, the course modules will be identified along with each module learning objective.

From the diagram in the preceding section, we can see that the major tasks in task analysis will become the module titles of the course. The performance objective determined in task analysis will lead to determining the learning objective of the module, and steps in each major task are the key learning points for each module.

It is important to understand the concept of a "learning objective" and how we can develop the learning objective for a course and for the modules. After formulating the learning objectives, the design of the modules will follow. Further, design will give the direction on what is to be developed to achieve the module learning objective.

**Determine course learning objective:**
The course learning objective should follow from the need and the performance objective determined at analysis phase. The delivery of the course objective should address the gap that was identified at the analysis phase. Based on the course learning objective, the overall course structure and individual modules can be identified. Each module will have a module learning objective, which will lead to the achievement of the course learning objective.

**Determine module learning objectives:**
The resource team should identify the necessary knowledge flow of the course and then determine how to modulate the course material. Structuring the information into small chunks will make it easier for the participants to follow and learn the material. Module learning objectives will follow from the performance objective determined at the task analysis.

## Understanding learning objectives

Generally, most of the things that we want to teach in an eLearning course have one of two components: knowledge, or skills. Sometimes the two can be combined.

The knowledge component of a course requires the participants to know something. This type of learning objective is called a cognitive objective. Examples of learning objectives in the cognitive domain are recall of data (knowledge)—for example, name different elements of an audit design matrix; describe the benefits of performance auditing; explain the principles of performance measurement; etc.

Generally, the skills component refers to something that involves doing something physical, requiring eye-hand co-ordination. These we call psychomotor objectives because they usually involve movements or actions. In the eLearning environment, we also consider skills as cognitive skills—those that involve the brain and the "mental gymnastics" required to make decisions, make judgements, think critically, analyse and synthesise information, solve problems, etc. Often using skills requires us to apply knowledge.

We write both cognitive and psychomotor (or knowledge and skill) objectives. If the knowledge-based learning objective is that participants will be able to explain the elements of an audit plan, the skill-based learning objective would be that participants will be able to write an audit plan in the virtual classroom environment as they do in a real audit. Note the difference here between the words: *explain and write*. While we can explain the elements with our knowledge, we cannot write a plan unless we have the necessary skills to do so.

Most of the things we teach will have an attitudinal component. This is called an affective objective, which deals with attitudes. Driving safely requires not only skill but an attitude of care about the safety of others and yourself. You can use management knowledge and skills to work well with people, but it requires a certain attitude to be most effective. It is not possible to teach attitudes directly; thus, we are not going to cover the subject here.

As we have seen, in writing a learning objective we use words that indicate the actions that the participants are expected to be able to do after a session or module.

The table below is taken from the Bloom's Taxonomy of Educational Objectives, which arranges the learning objectives into three general domains of cognitive, psychomotor and affective, which are knowledge, skills and attitude. These three domains are aligned with what eLearning course designers do as well: knowledge creation, or skills development.

Bloom Taxonomy further subdivides the domains into more specific levels of behaviour. They regard these as levels, each successive behaviour being more difficult than the previous. In the cognitive domain it's easier to achieve a learning objective for teaching knowledge than for comprehension. Accordingly, the module learning objective will be written by keeping in mind what are we aiming to achieve in the module. If the expected behaviour is an application then, as in the example given earlier (to write an audit plan), the learning objective will be different and accordingly designers will design the module in a different manner.

The table below gives examples of different action words for different levels of cognitive objectives. The course designer can make use of this table as reference in developing learning objectives.

### In the cognitive objectives, there are six distinct types of behaviour

| Behaviour | Action | Examples |
|---|---|---|
| **Knowledge** | Recall of data | Name the officers of an organisation. Recite the pledge of allegiance.<br>Quote a policy. |
| **Comprehension** | Translation;<br>interpolation; or<br>interpretation | Explain the principles of performance objectives.<br>State a problem in one's own words. |
| **Application** | Unprompted use of an abstraction;<br>use of a concept in a new context | Use organisation's employee manual to calculate your own sick leave.<br>Apply laws of mathematics in practical situations.<br>Solve a discipline problem by relating it to the union contract. |
| **Analysis** | Breaking down systems or communications into components | Troubleshoot a machine that isn't working properly.<br>Distinguish facts from hypotheses. Outline an essay. |
| **Synthesis** | Building a structure or pattern from elements found in diverse sources | Write an essay.<br>Design a simple machine tool to perform a specific operation. |
| **Evaluation** | Making judgements about the value of ideas, words, solutions, materials | Select the most efficient solution from an array of options.<br>Select the most qualified candidate for a specified position. |

## Developing learning objectives

eLearning "course learning objective" is a statement of instructional intent that describes precisely what we wish to happen at the end of the course. Therefore, as we have discussed already, the learning objective should contain an action verb that is observable and measurable. One important thing to remember here is that the learning objective has a link with, and will follow from, the performance objective that was identified in the analysis phase. If we have found in the analysis phase that there is a need for performance audit training because the SAI staff are not capable of conducting performance audit, then the course learning objective could be that at the end of the course, participants will be able to conduct a performance audit. And the course will be designed accordingly.

Using the same example, in the analysis phase we might have found that participants need adequate knowledge and skills in performing some tasks to do the audit properly. These tasks could be the stages of audit, and in designing the modules the course resource team has to transform these tasks (e.g., performance objectives developed in the analysis phase based on the gap identified) into learning objectives so that participants will be able to perform these tasks to achieve the course learning objective.

A comparison of performance objectives and learning objectives for the same tasks (but one performed in real-life audit and another in a classroom or online environment) are shown in the table below.

| Task | Performance objective | Learning objective |
|---|---|---|
| **Describing the audit entity** | Given the permanent file, the previous year's working papers, and other specific documents, the auditor will describe the audit entity to the extent that it will include the entity's mandate, organizational structure, policies and rules and regulations guiding its operations. | Given an exercise, the participant will describe the audit entity to the extent that the description will include entity's mandate, organizational structure, policies and rules and regulations guiding its operations, as evaluated by the instructors. |

In this example, both the performance objective and the learning objective are written in the same manner. Both objectives are made of three common elements: conditions, performance and standard. For the learning objective, one more element is evaluation to check if learning has taken place in the module.

### Four elements of a learning objective:

| Conditions | Performance | Standards | Evaluation |
|---|---|---|---|
| Describe the tools, references, assistance, etc. that are required to complete a task. | One action verb that accurately simulates the task as it would be done in the workplace, e.g., here it is *describe*. | The measures or norms by which the task can be assessed to be within acceptable levels of performance. It refers directly to the action verb. | Defines who will judge that standards have been met. Evaluator may range from the learner (where some bias may be allowable) to a third party (who would be objective in judgement). |

While developing a learning objective, the eLearning course designer can validate it with the following set of questions for the four statements to check whether the learning objective is written correctly or not.

| | |
|---|---|
| **Conditions statement** | • Are the specified resources sufficient to enable the learners to meet the performance objective?<br>• Do the conditions simulate as closely as possible the job environment in a classroom or online?<br>• Are the conditions feasible and cost-effective? |
| **Performance statement** | • Does the statement contain a single, observable action verb? |
| **Standards statement** | • Has a minimum acceptable standard of performance been specified? Are the standards reasonable and cost effective?<br>• Are the standards related to the job? |
| **Evaluation statement** | • Has an appropriate evaluator been specified? Is the evaluation feasible and cost effective in the training situation?<br>• Does the action represent the desired performance of the trainee?<br>• Does the verb reflect the appropriate level of learning?<br>• Can the statement be evaluated during the module? |

The following table illustrates how a learning objective is formulated using the four elements described so far.

| Conditions | Performance | Standards | Evaluation |
|---|---|---|---|
| Given an exercise | describe the audit entity | include entity's mandate, organizational structure, policies and rules and regulations guiding its operations | evaluated by the instructors |
| **Format of learning objective** (can be used to develop one):<br>Given… (list your conditions) …participants will be able to…(performance—one action verb)……to the extent that …(standards are listed here)…as evaluated by…(who will determine that the objective has been achieved?) | | | |

## Determine key learning points in each module

As explained above, the sequenced steps in performing each major task are transformed into the key learning points in the learning scenario. Considering the individual module learning objectives, the resource team should determine if the major tasks are covered as key learning points (KLPs) in the module. KLPs are important to determine in each module. This will facilitate the design of the module learning material following the nine-step model of the systematic approach to training (SAT) described later in this chapter. Below is an example of an eLearning course structure with the course learning objective, module learning objectives, key learning points and tools used for the modules.

**EXAMPLE:**
eLearning Course Structure

**Course description**

This is a four-week eLearning course that covers the performance audit process. In the course, participants will acquire the basic knowledge and skills necessary to conduct a performance audit. It uses a case study as an example of performance audit throughout the course, to provide participants with a practical experience of audit. This case study is used for the evaluation exercises of the course modules. The course has four modules; each module is for one-week period. To successfully complete the course, participants will be required to spend on average 3 to 4 hours a day, or approximately 20 hours in a week.

**Course learning objective**

At the end of the course the participants will be able to conduct performance audit in their SAIs that is in line with performance audit best practices. Specifically, it will help them to:

- develop performance audit plans that identify lines of enquiry;
- apply techniques for conducting performance audits;
- discuss performance audit results and recommendations based on the elements of a finding;
- outline the requirements for reporting on performance audits.

**Course module structure**

| Week and module | Module name | Learning objective | Module key learning points (KLPs) | Learning activities/tools |
|---|---|---|---|---|
| **Week 1 Module 1** | Performance Auditing Basics | By the end of the module, participants will be able to explain the basic concepts of performance audit. | • Applicable ISSAIs<br>• Performance auditing definition<br>• Performance audit approaches | • Module video<br>• Core text and quizzes<br>• Evaluation exercise<br>• Discussion forum |
| **Week 2 Module 2** | Planning a Performance Audit | By the end of the module, participants will be able to write a performance audit plan that complies with the ISSAI requirements. | • Audit objectives, scope, methodology and Audit risk considerations<br>• Identifying audit criteria<br>• Audit design matrix | • Module video<br>• Core text and quizzes<br>• Evaluation exercise<br>• Discussion forum |
| **Week 3 Module 3** | Conducting a Performance Audit | By the end of the module, participants will be able to execute the performance audit process by gathering and evaluating evidence that complies with the ISSAI requirements. | • Data analysis methods and basic statistics for audit analysis<br>• Audit findings matrix<br>• Elements of a finding | • Module video<br>• Core text and quizzes<br>• Evaluation exercise<br>• Discussion forum |
| **Week 4 Module 4** | Reporting a Performance Audit | By the end of the module, participants will be able to write a performance audit report that complies with the ISSAI requirements. | • Required report contents and quality elements.<br>• Report issuance and distribution<br>• Follow-up | • Module video<br>• Core text and quizzes<br>• Evaluation exercise<br>• Discussion forum |

**Note:** Module learning activities here are given as examples only. Course designers can select various tools and methods for delivering different modules differently considering the key issues that we discussed earlier.

## Factors to consider in deciding on course modules

**Avoid creating modules that are too big:**
Participants need to feel that they are accomplishing something from the course and need those mental checkpoints that indicate that they are progressing. Keeping the modules manageable will help the learner feel a sense of progress. Also, modules that tend to be long cause the learner to lose interest, and thus the learning process becomes a chore. Generally, a module is designed for a week, and participants spend two to three hours of study every day. So the module activities should be planned accordingly to enable the participants to complete all activities using about fifteen hours in a week.

**Incorporate interactive concepts:**
Course structure should also include interactive concepts strategically placed throughout the course. This is the part of the content engagement. Too much interactivity can cause learners either to forget why they are completing the course or to simply lose interest. Strategic placement of interactivity will establish a good balance between exchanging information and sustaining the interest of the learner. Discussion forum, chat with the group, and mentor's webinar are interactive modes of delivery. Also, when the evaluation exercises are made of group activities such as the face-to-face workshop, and the delivery is aligned with the technical aspects of the course, then interactivity can also be ensured, and in this way, participants also feel more engaged.

# 3.5 Design of individual module of a Mentor Led eLearning course

After finalizing the course structure, modules of the course, and module learning objectives, it is time to design individual modules based on the module learning objectives. The resource team or individual designer has to decide how to design and develop the module accordingly.

Module design has two aspects. The first is to design the content following the systematic approach to training (SAT) that covers a nine-step model. All modules of a course have to comply with the nine-step model so that they will be delivered in a similar pattern, but they may use different modes.

The second aspect is to incorporate the innovative ways to develop and deliver the module so that it can be a memorable and meaningful experience to the learners. In doing so, the designer must develop the material according to the particular mode of delivery. However, at the design stage the resource team has only to decide on the modes; the team will develop these at the development phase.

## SAT and nine-step model of module design

Adults learn in different ways. Some prefer to watch and listen, while others prefer to speak and do. In the learning programme, these styles show up in different ways and have an impact on the learning process and on group dynamics.

David Kolb, Professor of Organisational Behaviour at Harvard University, defines learning as "the process whereby knowledge is created through the transformation of experience." How that experience is transformed to produce learning seems to follow a pattern that is natural and instinctive to human beings. Kolb, and others before him, have described four essential ingredients for such a transformation to occur:

1. **Concrete experience** – people experience the world through their senses (sight, sound, touch, smell and taste), and learning is generated through their senses.
2. **Reflective observation -** people individually reflect on the experience, and analyse it in order to understand and to find personal meaning.
3. **Abstract conceptualisation -** people integrate and synthesise their analysis, forming "theories" about why things are the way they are.
4. **Active experimentation -** people "test" their theories, generate new knowledge and understanding, and apply that new knowledge in their day-to-day reality.

These four separate and distinct stages are a continuous ongoing cycle, where experience is continually transformed into action, each cycle refining and adding to people's understanding (the experiential learning cycle).
This experiential learning cycle provides guidance for eLearning specialists on designing a module that facilitates adult learning styles. eLearning specialists should thus design a module that:

1. Provides a meaningful experience that stimulates the learners through their senses and actively engages them in their own learning process.
2. Provides the opportunity for individual reflection and personal analysis of the experience.
3. Provides a way for learners to share and compare their thoughts and feelings about the experience to find common elements and to develop theories about the experience.
4. Provides a way for participants to apply their theory in a realistic and relevant way.

The nine steps of module design incorporate this experiential learning cycle (ELC) to make the eLearning module activities participatory and exciting. The nine steps are:

1. Module overview
2. Module learning objective
3. Basic concept
4. Experience
5. Reflection
6. Generalization
7. Application
8. Evaluation
9. Module summary

Each module should have these nine steps. At the design stage, the team makes the module-at-a-glance document for each module that incorporates these nine steps to make sure that all modules follow the same design.

The nine steps are explained in the diagram below:

Experiantial Learning Cycle (ELC)

| | |
|---|---|
| **Module overview** | The model activities start with a module overview. We know that adult learners are motivated to learn new things in order to solve immediate problems. They learn more when there are direct and immediate benefits. The design of the overview is where the designer answers these questions. |
| **Learning objective** | The next element in module design is the module learning objective, which is decided when we have established the full course structure. Since the learning objective has been developed earlier in the process, it is simply a matter of ensuring that all participants fully understand what is to be learned, and how they will know it has been learned through an evaluation activity. |
| **Basic concept** | In this part, the designer provides definitions and explanations of the key concepts presented in the module that act as a foundation for learning. It should be complete and should address the “must know” for the module topic. Its secondary purpose is to ensure that all participants proceed from the same starting point, with a shared working language. |
| **Experience** | This is the activity part of the module and first step of the ELC. It might consist of an exercise, a case study, a small group task, or a role play. In some cases, it may be a “video” (which, in a face-to-face meeting, is a short lecture). The goal in the ”experience” part is to engage learners actively in the learning process and to give them a common starting point from which learning will occur. Based on experience, the learning process begins. |
| **Reflection** | The second part of the ELC is called reflection, and the question the designer must answer is, "How can I provide an activity for learners to reflect on the experience, analyse it, and find some meaning from the analysis?" Reflection is a critical part of the process and can be achieved by guided individual reflection or through a small group discussion, which can be arranged online using small sub-group activities. |
| **Generalisation** | The third part of the ELC requires that learners share and compare their personal insights from reflection, forming tentative “theories” on the basis of their shared understanding. In an online environment this can be done by arranging different online tools that will facilitate the generalisation. At this stage it is the role of the designer to determine how generalisation will happen and what tools would be required for that. |
| **Application** | It is in the last phase of the ELC where learners are required to apply in some way their new knowledge or skills gathered in the module. The application stage allows learners to try out what they have learned and obtain feedback in preparation for the final stage. For an eLearning course, the application can also be done in the forum where a discussion may happen, or a small group work can be assigned to the team. |
| **Evaluation** | As discussed before, completing the activity provides measurable and observable evidence that learning has occurred. |
| **Summary** | Finally, the module is completed with a summary of what happened, why, and how the new knowledge and skills can be applied back on the job. Most often the mentor in the virtual classroom provides a summary; but it may be more effective to call on members of the learning group to summarise the module in their own words. |

# 3.6 Designing a module-at-a-glance (MAAG)

The module-at-a-glance (MAAG) is a document stipulating how each module will be delivered. It ensures that the design of a module covers the nine steps of module design and shows how the experiential learning cycle is applied for all key learning points (KLPs) in a module.

The MAAG includes the title of the module and its detailed activities. The components of a MAAG are:

1. Module learning objective
2. Module structure covering nine-step model
3. eLearning facilitation methods
4. eLearning tools
5. Time required
6. Notes, if applicable

At the design phase the resource team will prepare the MAAGs for all modules. Preparing all MAAGs will help the team to see the course as a whole, covering all key learning points in all modules. This will enable the team toc check whether all important aspects required to address the performance objective are covered in the course. Once this is confirmed, the team will go to the development phase, where the team will follow the MAAG for each module to develop individual elements of the module. As such, the MAAG is the blueprint of the eLearning course.
The layout of a MAAG is set out below.

| Module learning objective | Tools and features required | Module structure covering nine steps | eLearning facilitation method used | Time required |
|---|---|---|---|---|
| Write the learning objective for the module as written in the course structure document. | List the teaching materials required to deliver the module. | 1. **Session overview**<br>2. **Learning objective**<br>3. **Basic concepts** | Write the method used for each activity. | |
| | | Key learning points (KLPs) | | |
| | | 4-7. **KLP 1** | For each KLP, identify facilitation methods that correspond to the ELC components, i.e., experience, reflection, generalization, and application. | |
| | | 4-7. **KLP 2** | | |
| | | 4-7. **KLP…** | | |
| | | 8. **Evaluation exercise** | Identify the evaluation method used to assess the achievement of learning objective. | |
| | | 9. **Module summary** | | |
| | | | **Total time**: | |
| **Notes**: | | | | |

## MAAG Example
## Module No.3: Analysis Phase: Analyse e-Learning Needs

| Module Learning Objective | Module Structure covering nine steps | eLearning Facilitation Methods | eLearning tools | Time Required |
|---|---|---|---|---|
| Given presentation, discussion, exercise, and case study, at the end of the module participants will analyse eLearning needs to the extent that the performance objective are written in recommended format and relevant in the workplace as evaluated by the mentors. | Module Overview<br>Learning Objective<br>Basic concepts | Presentation: Learning Plan<br>Presentation: Learning Plan<br>Presentation: Chapter 2 of the IDI eLearning Specialist Textbook and Online Article | - File<br>- File<br>- File | 1 hour |
| | **Key Learning Points (KLPs)** | | | |
| | **KLP 1: Determining the eLearning Needs**<br><br>**KLP 2: Writing Performance Objective** | **Resources:**<br>- Presentation: Determining the eLearning Needs<br>- Exercise: Determining eLearning Needs<br>**Resources:**<br>- Presentation: Writing Performance Objective<br>- Exercise: Writing Performance Objective | - SCORM Package<br>- Quiz / h5p<br><br>- File<br>- Assignment | 0.5 hour<br>0.5 hour<br><br>0.25 hour<br>0.5 hour |
| | Evaluation | Case Study (ISSAI 30) | Assignment | 1 hour |
| | Summary | Discussion | Forum | 0.25 hour |
| | | **Total Time** | **2 days** | **4 hours** |

# MAAG DOs and DON'Ts:

**DOs**

- Ensure that the learning objective is consistent with the course structure.
- Ensure that the nine steps are covered (in some circumstances, evaluation is already covered in the application).
- For each KLP, the experiential learning cycle covering the experience, reflection, generalization and application (ERGA) shall be covered.
- Consider the result of your analysis in the analysis phase in choosing the methods and tools (i.e., internet problems may not allow you to effectively use webinar).
- Focus on the purpose of the learning so that the methods and tools you will use are supportive of the learning objective.
- Provide feedback mechanisms in choosing the methods to give ample time for processing the learning (i.e., having a forum after an exercise will help participants clarify things and raise issues and challenges in completing the exercise).

**DON'Ts**

- Allocate significant time on overview, learning objective, basic concepts and summary, as the learning should focus on the heart of the course, which is the ERGA.
- Have more than 3 KLPs in one module so as not to demotivate participants.

## 3.7 Summary

This chapter explains the key concepts required for designing an eLearning course. Before we start the design phase we need to consider some initial issues that are keys to the success of a course. To make a course learner-centred, we need to keep our focus on participants' needs. This chapter covers how to make learning objectives that will be aligned with the findings of the analysis phase. The chapter also covers adult learning principles, a systematic approach to training, and the experiential learning cycle for designing a course. Finally, the chapter shows how to prepare a module-at-a-glance, documenting all necessary facilitating materials and methods that will be prepared and developed in the development phase, as well as the time required.

## References


IDI, *Handbook of E-Enabled Blended Training Programme for Trainers* (2009)

R. M. Branch, *Instructional Design: The ADDIE Approach* (p. 183).,New York City: Springer Science+Business Media, LLLC (2009)

McLeod, S., *Kolb-Learning Styles* (2013), retrieved April 20, 2015, from www.simplypsychology.org.

Pappas, C., *elearningindustry.com* . (2013), retrieved April 17, 2015

www.businessballs.com. (n.d.). retrieved April 15 April, 2015

# CHAPTER 4

# Development Phase



## 4.1 Overview

In this chapter, we will discuss course development. The resource team in charge of developing the learning materials has to refer to the MAAGs designed for all modules of the course. In developing the MAAGs, the resource team should have already decided what topics will be covered, their level of detail, and the media and LMS tools used to present the content.

The resource team will now develop the full eLearning course with all individual modules and all module documents and tools or features that were planned in the design phase. In the development phase, the idea and structure as envisaged in the design phase will be transformed into operational elements that, once combined, make up the eLearning course to be delivered. This chapter provides guidance on developing the content or material of the eLearning course based on the MAAGs created in the design phase.

The development process includes developing the various learning content with appropriate LMS tools for module facilitation. It covers the quality characteristics of content development as well. The technological part of development is managed by LMS specialists, applying specific software or audio and visual solutions and setting the learning management system configurations.

## 4.2 eLearning content

The learning content is the knowledge to be presented in the course, divided into modules. It covers the subject matter presented in the structure of the course at the design phase, and is linked to the learning objectives. It will give participants the knowledge and skills to achieve the learning objectives.

In practice, the learning content can be the combination of text, different learning activities and presentations, evaluation activities and additional readings, etc. Once the content is developed and its quality assured, different publishing methods are used to place it on the portal. Publishing in the eLearning portal can be done using videos, audio files, slide presentation, reading material, as well as exercises.

## 4.3 Considerations before developing eLearning content

There are three important elements to be considered during the development phase:

- Are the learning materials appropriate to the audience?
- Are the learning activities based on the learning objectives?
- Is the appropriate mode of delivery agreed?

### Material appropriate to target audience

In the development phase, the results of the analysis phase as well as the outputs of the design phase need to be revisited. They will provide information about the intended participants' level of prior knowledge, their background and experience, as well as their cultural background. All of these are important factors that affect how participants will receive the content. For example, the level of prior knowledge affects the complexity level of the material to be developed. If the audience has no prior knowledge of the topic in the learning situation, the content needs to be presented at a lower level of complexity than for a more experienced group, making the content simpler and gradually building up to more complex matter. This could also mean, for example, developing several smaller pieces of reading material or presentations to ease the participants' move into the complex material.

Similarly, the style of the content, including the tone of the written material and videos and audio, as well as how the participants are addressed in other activities, may have to be adapted to a certain cultural background. This may affect, for example, how a video needs to be scripted.

An eLearning course, as opposed to face-to-face learning, does not allow for digression in the same way a conversation does, and often there may be limitations on the actual amount of information that can be provided in a module. The developers therefore have to decide what information will be relevant for the participants and limit themselves to covering only this material in developing the content. As with degree of complexity, the amount of information can have effects on the learning situation. Too much information can reduce the content's value, while too little information may reduce the possibility of learning. The developers are responsible for the quantity balance.

### Material developed based on the learning objective of the module

Here it is important to see the different learning activities and modes of delivery together with the content. For example, if participants are required to do an assignment in a module, the information necessary to complete the assignment must be provided in the content of the module. The content can be presented either by using some media or a particular method to be determined by the designer. When reviewing the learning objective, it is useful to look at the wording of the objective, as it will indicate the desired performance for the module participants and in this way guide the course developers in what to include.

### Appropriate mode of delivery agreed

Course developers need to consider the media (e.g. tools and features) they plan to use to present and deliver the content. A variety of learning activities are necessary in eLearning to keep participants motivated, and also because different participants learn in different ways.

We have discussed synchronous and asynchronous modes of delivery using different tools. Course designers will decide what tools and features to use. For example, in asynchronous activity such as a lecture by a facilitator, the developers have to develop the content according to the media that are used. If a lecture is given using a video, it requires the developers to think about and create the content differently from in a classroom setting. They have to consider whether to implement visual elements, and have to write a script for the video. A video script will have a different style from a text document intended for a reader, even if they both cover the same topic.

Similarly, developers will make the script for a podcast differently from a video script, because in an audio format the information needs to be presented differently to come across to the participants through words and voice alone. Developers have to consider all these factors at the start of, and throughout, the development phase to make sure there is consistency.

## 4.4 Developing module learning material

Learning material has three common aspects: knowledge content, instructional design, and appearance. Content is linked to the subject matter, instructional design is built in by the systematic approach to learning and experiential learning cycle (ELC), and appearance is associated with publishing the content on the LMS using different media, tools, features and graphic design. The resource team will combine these aspects in developing eLearning course material. When developing learning materials, the resource team is mainly responsible for the subject matter and the instructional design (ELC with the nine-step model), with some very basic functional understanding of the technical presentation role.

### Material to be developed for a module

The module at a glance created at the design phase works as a guide for developing different module material: that is, the team will develop the elements described in the MAAG. It includes the tools and features with the facilitation methods as

explained in the MAAG. Apart from these materials, which are often specific to individual modules, all modules have two common materials: the module learning plan and the facilitator's guide. The learning plan is for the participants' use. It describes the full module activities with timeline and requirements to complete the module. The facilitators guide is for the use of the facilitators. It guides the facilitators to deliver the modules in a consistent manner. How to develop these materials is described in detail below.

## 4.5 Developing the module learning plan

The material to be developed first, based on the MAAG, is the module learning plan. The MAAG is made for the course designers, and the learning plan for the participants.

The eLearning course plan captures what, as a whole, the course intends to achieve and how the course is going to be delivered. This can be based on the overall course structure decided at the beginning. It includes the following components:

- Course description – what it covers, what learning methodologies are to be used, etc.
- Audience profile –the target participants, their level and experience;
- Course objectives – what the course intends to accomplish after delivery;
- Expected outputs – description of the desired immediate results of the course;
- Expected outcomes – description of the intended long-term results of the course; and
- Module topics– list of the major topics/modules to be covered.

The module learning plan, as a supplement to the course plan, describes how each module will be delivered. It ensures that the design of the module is based on the nine-step model and clearly shows how the experiential learning cycles are applied for all KLPs in a module.

The module learning plan, like the module at a glance, includes the titles of the module and the schedule for the week, with detailed activities. There can be narrative description at the beginning of a learning plan explaining the rationale and linkages with previous and later chapters.

The components of a module learning plan are:

- Module overview
- Learning objective
- Module learning activities with an outline

A template of a learning plan is provided in Annex 1 to this chapter.

# 4. 6 Developing the eLearning facilitator's guide

The facilitator's guide is a structured document prepared for the use of the mentors of the course. The aim of this document is to assist the mentors in delivering the course smoothly and in a consistent manner throughout the course. The guide should be in line with the module learning plan. During the design phase, the resource team should agree on the facilitation plan for the module; it will be developed in the development phase.

The guide covers the details of the technical points of the module, what is to be discussed with the participants and how to respond to the participants' submissions such as exercises and discussion forum topics. It will cover both asynchronous and synchronous activities and document related narratives for them. The guide also incorporates how to monitor the activities of the course participants in all modules.

Generally, a course is developed by a group of mentors or eLearning specialists. First the group of mentors will design the course structure, and then the MAAGs are developed by individual mentors. A mentor who has developed the MAAG will also develop the learning plan, facilitator's guide and other module material for learning in that module. The guide will then be used by the other mentors to deliver their particular module in a similar manner. In this way, all mentors are able to deliver any course module even if they did not develop the specific module and guide. A template of a facilitator's guide is provided in Annex 2 to this chapter.

# 4.7 Developing module learning content

### How the content should be organized

The organization of the content should be logical and coherent. This means that all elements it contains, such as concepts, examples, activities and exercises, should be integrated with each other along with the mode of delivery. To organize the eLearning contents properly in a module:

- there must be coherence between the items of the content;
- the relationships between the items must be clear; and
- participants must be facilitated by mentors to make the connections themselves.

## Principles of writing module content

Some of the main qualities that the eLearning specialist has to address when writing the content are:

- Clarity, accuracy and consistency
- Conciseness
- Use of the active voice in the third person
- Simplicity

### Clarity, accuracy and consistency

These refer to the clear writing of the learning materials in a rational sequence. They involve the organization of ideas, concepts and knowledge in a structured, progressive and sequential manner, integrating all the elements necessary to help the participant retain the narrative thread. The developer should use natural language and short sentences. Spelling and grammar are important aspects of quality control, keeping in mind that the slightest mistake in spelling, either typographical or grammatical, may be counterproductive to the learning process and could be enough to diminish the credibility of the course content.

### Conciseness

When creating a course, make sure that there is no information overload in the materials or content developed. It is important to distinguish between what is "good to know" from what is "necessary to know." Thus, content developers must find the right balance between conveying important concepts and keeping the learning interesting. The eLearner tends to focus on the information of his/her interest and everything else is automatically discarded. So, when writing, note that online texts must contain no more than half the words contained in the printed text.

### Use of the active voice in the third person

Content developers should try to write using the active voice. It will help the audience to more easily understand the content. Additionally, it has a greater precision and uses fewer words to express ideas. The active voice refers to the subject in sentences, and who performs the action, unlike using the passive voice. For example:

- The auditor conducted the research (active voice).
- The research was conducted by the auditor (passive voice).

Moreover, the course designer should use the third person singular, which involves a point of view that goes beyond subjectivity. In doing so, use of personal pronouns like "I" or "you" should be avoided. This allows a more objective and less personal way of expressing ideas.

- The first person: I will.
- The second person: You go.
- The third person: He/she goes.

### Simplicity

The simpler the writing in texts for eLearning, the less chance of confusion and misunderstanding on the part of the readers. Before starting to draft, be sure you know the characteristics of the learners and their context, and be sure that the content that you develop will be relevant to their experience.

## Developing module reading material

Module reading material is a document that broadly covers the key concepts of that module. It is important to follow some structure for developing this text in an eLearning course. Thus, the eLearning specialist should develop the eLearning reading materials in a way that keeps them consistent. The reading material should contain following elements:

### Suggested Format of Module Reading Material

Title: The title should describe the subject matter in a succinct and unambiguous way.

Table of contents: Page numbers should indicate where each part or section starts. The depth of detail in tables of contents depends on the length of the work, with those for longer works having less detail.

Introduction: This is a short text aimed at motivating the participant to study the content. It also has the function of welcoming the students. It usually takes less than a page. The introduction presents the specific objectives that will be covered. The introduction is responsible for providing the participant with an overview of the text.

Learning objectives: Each module must have specific objectives, which represent the learners' objective at the end of that module. Goals should preferably refer to actions, performance or observable tasks. These goals will guide the student's learning while he/she reads the material.

Body: The development of the module is divided into topics, which are a content sequence aimed at achieving the objectives of that specific lesson. It may be helpful to use different formats (images, examples, concepts, graphics, etc.), according to the nature of the course, specifics of the audience and the learning objectives for that module.

Summary: This retrieves the central ideas of the module. It “closes” the class and explains what will be seen in the outline of the next class, so that the participant knows what to expect and is better able to continue the reasoning started in this course.

References: all references used must be cited when finalizing the text. It is important to follow the citation rules and respect copyright propriety.

## Developing discussion forum questions

A forum is a discussion space in the virtual classroom. Therefore, the discussion questions should encourage participants to explore the issues, present their views and discuss practical or theoretical situations from various perspectives. The issues of the forum should not be answered by "right or wrong" or "yes or no." It is always best to propose relevant and open issues that are still evolving and/or controversial. Generally, it is best to formulate a question related to the topic of the module, and participants can relate the concepts with their real-life experiences. In that case, varied answers will come and everyone can learn from each other's experiences as well. However, it is important to keep the focus on the module objective and to check if the discussion is not beneficial to achieving that objective. Following is a list of question types that can be used to facilitate and generate good discussion:

- Exploratory: probes facts and basic knowledge
- Challenge: questions assumptions, conclusions or Interpretations
- Relational: asks for comparisons of themes, ideas, or Issues
- Diagnostic: probes motives or causes
- Action: calls for a conclusion or action
- Cause and effect: asks for causal relationships between ideas, actions or events
- Extension: expands the discussion
- Hypothetical: posits a change in the facts or issues
- Priority: seeks to identify the most important issues
- Summary: elicits synthesis

The best types of questions are the revelatory and explanatory ones, the ones that are broad enough that they do not have only one acceptable answer. Depending on the learning objectives, the resource team may create different types of question to be applied in the eLearning course.

There are different kinds of questions that are not always suitable for discussion forums. The "Guess what I'm thinking" questions can turn discussion into a game of mind-reading. The "yes/no" question tends to halt any real conversations. The "leading" question points towards a particular answer and may get monotonous. The "rhetorical" question is a statement, not a question. The "information retrieval" question is too simple and does not add any new or important information to the discussion. However, for other purposes of the module design these types of questions can be used.

**Example:**
**Discussion Forum Question**

**Module 1**

**Introduction and Basic Elements of Compliance Audit**

**Discussion Forum question:** Based on the previous E-course on 'Compliance audit iCAT' that you have undertaken in October to December 2012, are there any further activities that occurred in your SAI? You can elaborate your answers based on the following issues, also include any other relevant issues:

a. Attempting to complete the compliance audit iCAT,
b. Updating your manuals and guidelines,
c. Undertaking any peer review,
d. Training and development.

**Instructions to Participants:** Post your comment on the discussion forum under your respective Mentor group based on your experience on above.

## Developing a quiz

Quizzes are learning activities whose answers are previously defined and in which the evaluation is automatically made by the learning management system (LMS). A quiz can be made up of, among others, true or false questions; multiple choice questions; or association between alternatives (matching). While developing a quiz, the developer should consider that:

- practical questions should be created for all critical topics or tasks;
- the wording of the question must be clear and unambiguous;
- incorrect options should be plausible. An obviously wrong option does not play any useful role and decreases the learner's interest;
- incorrect options should aim not at distracting learners but at anticipating common errors, so that useful information can be provided in the feedback;
- provision should be made for textual responses to each option of about the same length. If one of the responses is much longer than the others, the learner will think that is the correct one;
- explanatory feedback should be provided—after the learner responds to a question, provide feedback saying whether the answer is correct or incorrect with a succinct explanation;
- the answer choices "All of the above" or "None of the above" should be avoided, because an **automatic shuffling** of the answers can put either choice as number one, losing the objectivity of the question.

**Example:**
Quiz Questions

1. Compliance audits evaluate the efficiency and effectiveness of any part of an organisation's operating procedures and methods.
   a. True
   b. False

2. One of the objectives of Compliance auditing is to:
   a. Report on the entity's relative success in attaining profit maximization.
   b. Evaluate the feasibility of attaining the entity's operational objectives.
   c. Promote accountability by reporting deviations from and violations of authorities.
   d. None of the above.

## Developing case studies

A case study describes a situation relevant to the topic of a course or a module. A case study is normally a narrative that describes a situation in a more in-depth way than shorter exercises. In a learning situation, using a case study can replicate real-life scenarios into the learning. The essence of case study methodology is the combination of different levels of techniques, methods, strategies, or theories. It is important to remember that the more interesting and challenging a case study is, the more valuable it will be considered by the participants and the more memorable the experience will be for them as well.

The case study narrative is not an exercise in itself but is the information needed for the participants to solve the assignments given separately throughout the course. Usually, providing a case study that covers several modules will be a way of providing consistency and connection between the modules.

If the learning objective is to learn how to carry out a process, the case study will, for example, provide over the course of the different modules all the information necessary to be able to carry out the process. For example, for auditors learning how to conduct performance auditing in an eLearning environment, solving a case study with assignments covering the

different stages of the performance audit process, presented over several modules, can be one way of learning how to conduct an audit.

A case study allows the learner to apply the knowledge presented to a fictional situation, thus obtaining the skills required in real-life situations.

When creating a case study, developers need to consider:

- Information needed to develop the case study
- Additional elements such as the documentation needed to have a complete case study
- The length of the case study
- Whether the case study covers several modules
- Consistency of the information provided in the case study
- Coherence with the other assignments provided
- Workload of developing the case study
- Relevance and realism of the case provided

Like any other text document, the case study should be written with good flow. However, as opposed to other content, the case study will often be created as a narrative, more similar to a story. In addition, not all information will be presented logically and chronologically, and some of the information may be hidden. The reason for this is that the case study is an activity that requires the participants to research and find the relevant information necessary to respond to the assignment.

It is important to keep in mind that a case study is expected to capture the complexity of a single case. One of its major advantages is allowing the learners to balance theory with practice and search for solutions themselves.

Instead of focusing on a universal discovery or cause-effect relationships, the emphasis is placed on exploration and description. Case studies do not provide answers, but raise questions. In the development phase, the learning specialists can use multiple methods and approaches to conduct their case studies.

## Developing online chat, webinar, video

Web-based tools for a particular module need to be developed just as other documents. While these are technical features that are used, the content has to be developed and attached to the tools so that they can be used as learning material and activities. Considering the nine-step model, the resource team will decide where to use which tools and accordingly will develop the necessary content part of the tools to facilitate the desired learning and activity. In these cases, the LMS specialists and technical staff will cooperate with the eLearning specialist to make and upload the tools on the virtual classroom.

Webinars can be conducted with easy-to-use software. The developer should write script for the mentors on how to conduct the webinar; this should also be included in the facilitator's guide. A well-prepared webinar will act as the part of the ELC in a module to achieve the learning objective. Video and other audio-visual features should be prepared with technical persons to make it manageable. Due to file sizes, some participants may not be able to follow the video. It should not be too long: standard video length can be 5 to 10 minutes.

# 4.8 Publishing material on the LMS

Material prepared by the developer needs to be compatible with the LMS to add on the portal. Also, these materials should be formatted in an attractive manner. Developers should be aware of the following aspects.

## Graphics design and content layout: Visuals

Visuals are graphical ways of organizing and presenting information and can be used in accordance with the objectives and to improve the organization of information. Additionally, visuals help present complex and abstract information, which may help the participant to understand easily the information, aside from making the material more interesting.

When developing learning materials, it is important to apply other resources used for enhancement of its presentation. These teaching resources may increase their effectiveness in conveying the message or content that the audience must internalize. Some examples of resources are the font type and size used in the text; and color and texture of symbols, images, graphics and diagrams. Relevant graphics are a fundamental feature in the development of eLearning materials. They could have many functions related to the learning objectives, for example:

- drawing attention to a specific content element;
- suggesting analogies between new content and familiar knowledge;
- supporting the understanding of concepts;
- simulating the work environment and real situations; and
- motivating learners by making materials more interesting.

Those involved in all phases of the development of eLearning materials should remember to avoid using graphics for a merely decorative function. On the contrary, it is important to keep in mind that each type of visual aid should be used in a very specific context.

### Functions of types of visuals and when they should be used

| Function | What they do | When they should be used |
|---|---|---|
| Decorative | Decorate (only) | Only useful at the start of a new lesson to motivate the learners. If used too frequently, they can in fact obstruct learning. |
| Representational | Make the content concrete | Useful for clarifying concepts, phenomena and objects, and making them comprehensible. |
| Organisational | Structure the content | Can be used to create order and to show a sequence of actions |
| Interpretational | Simplify the content | Can be used to explain complex processes, abstract or complex concepts, and phenomena. |
| Mnemonic | Memory aids, mnemonics | Provide support for concepts that are difficult to remember. |

The graphic design role in the IDI eLearning approach will be shared with the eLearning specialist, who will describe what features she/he needs to develop the content, and with the graphic design specialist, who will implement these features.

It is necessary to understand the range of possibilities that the team can apply in materials development. For this reason, this Textbook will briefly describe some of the most used features, for example:

- side boxes;
- typographic features;

- images;
- charts/diagrams; and icons.

**Side boxes** These boxes are used, when coupled with the icons such as those shown below, to direct the participant's attention to a desired element of the learning material (concept, further reading, etc.).

**Typographic features (bold, underline, italics, etc.)** These should be used to highlight text or expressions indicating central concepts. Avoid excessive use of bold in the text. Balance is the rule.

**Images**

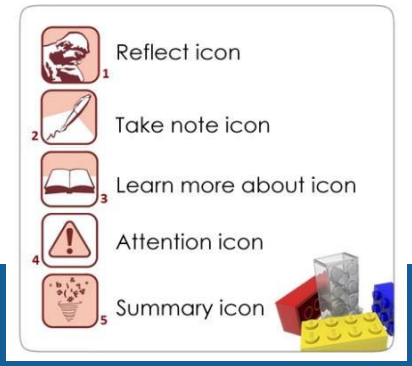
- Does the image strengthen or support my message?
- Does it invoke interest in my content?
- Does it stand out and attract my learners' attention?
- Does it convey the right message to my learners?
- Does it follow in terms of uniformity with other images used in the course?

**Charts/Diagrams**

- Line charts can demonstrate trends and allow learners to make comparisons between two or more variables.
- Bar graphs are useful for comparing quantities and dimensions.
- Pie charts show relationships between the parts and the whole, and are particularly useful for showing proportions and ratios.
- Flow charts are recommended to depict complex procedures.
- Diagrams can provide organization and meaning and are therefore recommended when trying to help the learner store and retrieve verbal information.

**Icons**

Icons have the same psychological purpose as paragraph breaks. They improve the readability of the learning material. The reader of eLearning content usually has some degree of difficulty when reading it online. For this reason, icons are an essential feature of an eLearning course. Some icons that can be used for developing eLearning courses are shown here.




Icons:

- increase readability;
- draw attention;
- are important to engage readers on pages with extra-long content;
- should vary in size and placement;
- have to be integrated with the content; and
- have to be integrated with the overall graphical design project.

Once the course material is developed and ready for delivery, it is a good practice to test the course with a small panel of participants before delivering it to the main audience. This testing phase gives the designers, the technical staff and the LMS staff the opportunity to validate the design and development work done so far. It also clarifies whether the envisaged mode of delivery is working effectively with the course content. Based on the lessons learned from this testing, the designer/developer can review and refine the material, which will then be ready for delivery to the actual audience.

## 4. 9 Summary

This chapter describes how we can develop the eLearning materials based on the MAAG. The outputs of the development phase are the full course or module material, including the tools and features that will be used for the delivery of the course. These include the learning plan, facilitator's guide, and other module learning material. One key issue in development is the application of the nine-step model in the module learning material. We discussed how, with the use of the tools, features and learning content, we can apply the model to develop an interactive module. During the development phase it is important to work out the delivery technicalities in advance with the technical team and LMS specialist to ensure smooth delivery of the course. In the next chapter we discuss the delivery of an eLearning course.

## References


Becker, B., Dawson, P., Devine, K., Hannum, C., Hill, S., Leydens, J., . . . Palmquist, M., *Case Studies. Writing@CSU.* Colorado State University (1994 - 2012) Retrieved from: http://writing.colostate.edu/guides/guide.cfm?guideid=60. Ac

India., C. (n.d.). *Tips on Using Images in Your E-learning Courses.* Retrieved from <http://blog.commlabindia.com/elearning-design/using-images-in-elearning-courses>

Johansson, R., *Case Study Methodology,* International Conference *Methodologies in Housing Research*, Royal Institute of Technology, Stockholm (2003)

Millar, L. ,*Writing Case Studies: a manual*. In L. Millar. International Records Management Trust (1999)

Morrison G.R., R. S., *Designing Effective Instruction.* Wiley & Sons, Inc., Third Edition (2001)

Nations, F. A., *ELearning methodologies: a guide for designing and developing eLearning courses*, Rome (2011)

Piskurich, G. M., *Rapid instructional design: learning ID fast and right,* Pfeiffer (2006)

Reints, A. &. *Know What Works and Why - The quality of digital learning materials,* Zoetermeer: The Netherlands: Kennisnet. English edition (April 2014)

University Center for the Advancement of Teaching, T. O. *Facilitating Classroom Discussion: Levels and Types of Questions for Classroom Discussion* (2014). Retrieved from http://u.osu.edu/advisortraining/files/2014/04/Levels-and-Types-of-Ques

# Annex 1:
## Module Learning Plan Template

### Module no.: Module title

1. **Module overview**
2. **Learning objective**
3. **Learning activities for Module ….-Week ….**

| 9 Steps | Activity | Learning Method | Day and Estimated Time | Instructions |
|---|---|---|---|---|
| 1.<br><br>2.<br><br>3. | Module overview<br><br>Module objective<br><br>Basic concepts | | Day 1<br>1 hr. | Complete by day 1. |
| **4-7: KLP 1: Title of KLP 1** | | | | |
| | Explain what participants are required to do. This covers the ELC for each KLP | Can be a case, presentation, etc. based on the step of ELC | | |

| | | | | |
|---|---|---|---|---|
| **4-7: KLP 2: Title of KLP 2 (etc.)** | | | | |
| 8. | Evaluation exercise<br>Linked with module learning objective | | | |
| 9. | Summary | | | |

| | | | | |
|---|---|---|---|---|
| | **Total hours** | | **10 hours** | |

# Annex 2:
## Facilitator's Guide Template

| 9 Steps | Facilitator's instructions (points to be covered by mentors) | Day/Time | Learning tool and techniques | Expected participants' response and probable answers |
|---|---|---|---|---|
| 1.<br><br><br>2. | Module overview<br><br><br>Module learning objective | Day 1<br>30 mins. | Video<br>Module announcement<br>Module banner on the portal | No responses required. |
| 3. | Basic concept:<br>Explain in brief how the basic concept will help participants understand the KLPs. Also how the basic concepts activities are done. | | | What some possible responses from the participants could be, if there are some activities. By anticipating these, mentors can be prepared beforehand to answer any questions. |
| **4-7: KLP 1:** | | | | |
| | Each KLP will cover the ELC with LMS tools and features. | | | What some possible responses from the participants could be, if there are some activities By anticipating these, mentors can be prepared beforehand to answer any questions beforehand.<br><br>If there are some exercises involved, the suggested solution is prepared and sent to the participants when they complete the tasks. |
| | | | | |
| **4-7: KLP 2 (etc.):** | | | | |
| | Done similarly as KLP 1 | | | |
| | | | | |
| 8. | Evaluation exercise:<br><br>This exercise will check how the learning objective is achieved. | | | Suggested solution should be provided |
| 9. | Module summary<br>How the module will be summarized. | | | |

# CHAPTER 5

## Delivery Phase



## 5.1 Overview

This chapter provides guidance on the delivery of eLearning. Effective delivery of eLearning depends on a well-designed and -developed module-at-a-glance, learning plan, facilitator's guide and comprehensive course material. In eLearning, the focus is often on the learning materials or the technology; however, the consideration of the eLearning specialist's role as the designer and the manager of the new learning environment is equally important.

Although different methods are available, in this chapter the focus will be on facilitated or instructor-led eLearning. This is the preferred delivery approach that is used in the IDI. Preparation for the delivery of the eLearning should be taken care of in advance to ensure smooth operation during the delivery phase. In this chapter, guidance is further provided for the knowledge and skills that an eLearning specialist requires for online facilitation. It also covers the possible resources needed by a region and/or SAI for delivery when eLearning is considered.

The objective of this chapter is to prepare the eLearning specialist to be equipped with the necessary skills and guidance to effectively deliver an eLearning course.

# 5.2 Methods of eLearning delivery

eLearning can use a wide range of methods for delivery of information. The table below describes some of the methods available for the delivery of eLearning that can be used as stand-alone solutions or in various combinations. It should be noted, however, that some methods are more resource-intensive, and it is important to determine a best-fit method for the situation at hand in a particular SAI or region.

### Methods of eLearning delivery

**FACILITATED ELEARNING (INSTRUCTOR-LED)**

This method of delivery makes use of the capabilities of learner-led eLearning and adds the benefit of having an instructor or mentor guiding the learner.

**LEARNER-LED ELEARNING (SELF PACED)**

With this method, training can take place anytime, anywhere. It is learner-controlled. It could be classroom-based training, web-based training, reading, lab exercise, streaming video, web tour, etc.

The approach to delivery in this Textbook is instructor-led or eLearning facilitator-led/facilitated eLearning. Effective delivery of a course depends on the facilitation skills of the eLearning specialists. The role of the eLearning specialist here is to be a facilitator.

In facilitated eLearning, the learning takes place in a shared application space on the learning management system (LMS), which is referred as to as the virtual classroom. It is also defined as a teaching and learning environment where participants can interact, communicate, view and discuss presentations, and engage with learning resources while working in groups, all in an online setting. In the LMS, there are different media and tools that the virtual classroom will have available to facilitate the learning.

# 5.3 Facilitation, facilitator, components of facilitated eLearning and other considerations

Delivery of learning in an online environment can pose new challenges and opportunities to regions/SAIs. Preparing for these challenges and opportunities and understanding the strengths and weaknesses of online facilitation will result in successful learning for participants in a relevant "anytime, anywhere" format.

The eLearning specialist is a vital part of the success of the eLearning experience and needs to stay organized throughout the course. Keeping the learning schedule updated, managing due dates, holding online sessions, and communicating regularly with other key players are important challenges that must be met to ensure a successful experience for participants.

The eLearning specialist needs to be aware of the responsibilities at different stages of the course. Facilitator roles span out from before the course starts till it ends. Following are some tasks that eLearning specialists carry out during an eLearning course. Often the tasks before the course starts and at the beginning of the course are managed by the eLearning specialist who is taking on the overall management of the course. In that case, the role played during the course delivery is the eLearning facilitator role. However, all these roles are interconnected, cannot be distinctly separated, and should be managed by a team.

### Before the eLearning course starts

- Familiarize yourself with the course delivery structure and the site/platform.
- Develop an online delivery plan/schedule.
- Check that all resources, activities and links work (i.e. they open in a new window) and are current and relevant to the learning experience.
- Update your contact information.
- Contact learners, welcome them to the course and provide clear log-in instructions.

### At the beginning of the eLearning course

- Check that learners can log in and provide support and troubleshooting as needed.
- Facilitate introductions and community-building activities at beginning of the course, e.g., have everyone introduce themselves in a café-style forum.
- Set clear expectations.
- Confirm contact/turnaround times.
- Emphasize the importance of interactions and that online communication between participants is key to building community and contributes to the course outcomes, profiles, forums, chats, etc.
- Encourage sharing of experiences.

### During the online course

- Be a positive online role model.
- Send some sort of meaningful weekly communication, but don't overwhelm learners.
- Ideally, respond to learners' communication within a reasonable time frame to resolve any difficulties/queries, in order to ensure their learning is not interrupted (e.g., email and forum posts).
- Provide guidance and direction to learners when needed.
- Encourage online communication between participants.
- Relate to learner experiences and ask thought-provoking questions.
- Promote learner independence/responsibility and learner collaboration.
- Provide technical and other learner support as required.
- Online learning can be isolated, so provide positive encouragement and feedback.
- Monitor learner progress, participation in activities and completion of assessment tasks, and follow up as required.
- Provide informative developmental feedback

### After the eLearning course finishes

- Wrap up the course, thank learners for their participation.
- Review learner feedback and make recommendations for improvement.

- Engage in self-reflection for improvement and consolidation.

## Definition of "facilitation" and "facilitator"

The terms "facilitation" and "facilitator" have been introduced earlier in this chapter. To provide context for the use of these terms, we shall use the following definitions:

- Facilitation – the act of helping other people to deal with a process or reach an agreement or solution without getting directly involved in the process, discussion, etc.[1]
- Facilitator – one who facilitates; especially, one who helps to bring about an outcome (such as learning, productivity, or communication) by providing indirect or unobtrusive assistance, guidance, or supervision.[2]

The word "facilitator" comes from the Latin *facilitas* meaning "easiness," and the verb "to facilitate" has the dictionary definition "to make easy, promote, help forward (an action or result)."[3]

From the above definitions, a facilitator should have appropriate facilitation skills in order for the facilitation process to be successful and effective and to be able to develop learner autonomy.

"In a facilitative approach, the facilitator focuses on the needs and objectives of the group and sees his/her role as supporting the group. The facilitator concentrates on processes to maximise effectiveness of everyone's contribution. They are centred on others and seek to understand the others' perspectives to get on the same wavelength as the group. There is a belief that the participants have great reservoirs of experience and knowledge and it is the role of the facilitator to draw that out and build on it. All group members are encouraged to participate and contribute to the process. The facilitator supports the group to come up with ideas and solutions and seeks consensus agreement, win-win solutions.

This approach is best suited when working with mature groups that are experienced at working together in a facilitative way; when the aims and objectives are crystal clear or are capable of clarification; when sufficient time is available or can be made available to meet the aims and objectives. The facilitative approach also requires a culture of openness and trust, where the policy toward information is one of accessibility and transparency."[4]

Section 5.4 discusses the competencies of the facilitator or IDI eLearning specialist as well as the roles and responsibilities.

## Components of facilitated eLearning

An IDI eLearning specialist, among a variety of roles and responsibilities, manages and evaluates learning activities of eLearning programmes of the IDI. Thus, the term "facilitated" or "instructor-led" eLearning has been adopted for IDI's online courses.

The eLearning specialist should give attention to preliminary considerations before he/she begins the online course. As in a face-to-face workshop or training course, provision is made for learners to familiarize themselves with their environment and the other participants. This is a critical factor in the success of any learning. In advance of an eLearning course, participants should be provided with their user names and passwords as well as instructions on how to use the learning management system (LMS). This will give them the opportunity to explore the functionalities of the LMS for themselves, and it will also help to ensure that all participants are at the same level on day one of the course. This strategy helps to facilitate and promote an interactive learning environment, which is necessary for facilitated eLearning to thrive.

Moreover, the eLearning specialist should be familiar with the components or structure of facilitated eLearning or instructor-led courses, which are normally organized into modules scheduled to run over a number of weeks. Knowing these components and the corresponding roles and responsibilities can ensure the smooth delivery of the online course or module that may be assigned.

---

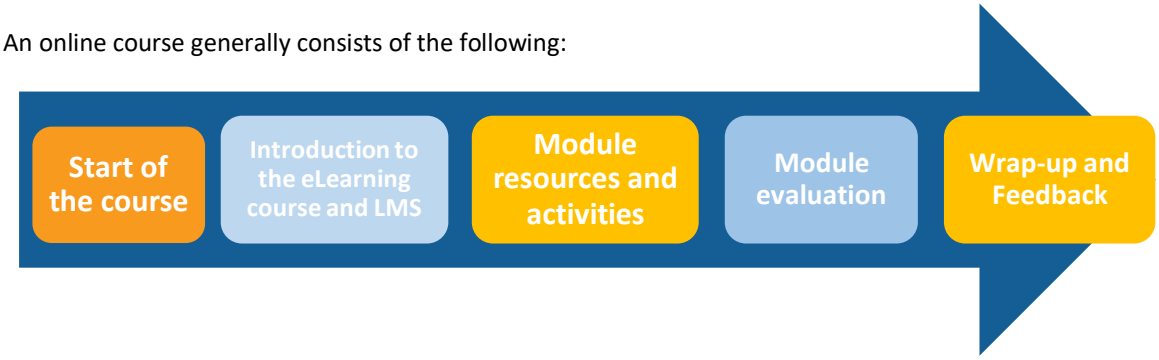
1 Definition of "facilitation" from the *Cambridge Business English Dictionary* © Cambridge University Press

2 *https://www.merriam-webster.com/dictionary/*

3 IDI EBTPT Courseware, 2015

4 Ibid.

An online course generally consists of the following:




## Start of the eLearning course

The start of the course introduces the course goals and the agenda. It should also motivate the participants and provide an overview of the methods and activities that will be used throughout the course. This can be done by a set of email communications or letters. Normally, an eLearning course is part of a bigger programme, in which case communication is part of the programme activities.

## Introduction to the eLearning course and LMS

This will make the participants secure and confident on how to start the online course properly or go about it correctly and navigate the LMS environment. The initial impression of the learners that may arise from this initial experience is critical to building their interest and confidence in completing the course. This initial activity is not part of the main learning activities of the course; hence, it is done before the course modules start.

Examples of pre-course activity could be “knowing each other” or introduction by the mentors and participants. This interactive feature of the pre-course could have, for instance, a welcoming video; instructions for requirements of learning; and some encouragement for building an online community through the course.

At this stage, the learners are provided with opportunities to experience the “look and feel” feature of the course. Likewise, the LMS administrators will be able to detect any technical problems that need to be addressed early on in the course.

## Module resources and activities

The eLearning plan is the document that details the module learning activities. Modules are spread out over the period of the course, and the learning plan document includes specific instructions on what is to be done for a particular week; the tools and features to use; tasks to be completed, including assignments; and the schedules to be followed. For most IDI eLearning programmes, the learning activities are accomplished by the learners themselves or may be a group effort. The modules are designed and developed following the systematic approach to learning, which requires:

- Reading, watching video and self-study
- Completing individual assignments and collaborative works
- Sharing reflections
- Asking questions by participants
- Participating in discussion forums facilitated by the mentor

These learning activities are designed to be facilitated by the facilitators and will be successful if there is open communication between the facilitator/eLearning specialist and the learners, and among the learners themselves. This is important because they need to be supported by receiving timely responses to their questions and queries via e-mail or other media on the LMS. The eLearning specialist needs to plan on checking and responding to queries posted by the participants on a regular schedule and provide feedback accordingly. Feedback provides guidance to learners on ways to improve their performance. It can be delivered via e-mail, in a discussion forum, or within the tracking and grading system on the LMS. A continuous participant-to-facilitator feedback will create a stronger learning environment and support the learning.

### Module evaluation

A course module includes evaluation exercises that need to be facilitated by the facilitators. This is to evaluate whether the learning objective of the module has been achieved. The assessment may come in different forms, as decided in the design and development phases of the module. It can be a quiz, a case study, an individual assignment, etc. If it is an exercise, suggested solutions need to be prepared and the facilitator needs to provide it to the participants while facilitating.

### Wrap-up and feedback

Like face-to-face training, feedback on how well the course is designed, the performance of the facilitators, and the LMS administrators of the course is important. This is generally covered in the wrap-up week after the course module ends. This will help identify the weak and strong points of the course design and delivery so that the design can be improved to make it more effective for future delivery of the course. Generally, the eLearning manager is responsible for this as part of the overall course management.

## Other considerations

Aside from the components described above, the eLearning specialist should be aware also of other considerations, such as those below.

### Timing of delivery[5]

Consideration should be given to peak audit seasons when determining the starting time and the duration of the eLearning course. Additionally, learners should be given sufficient time to complete the course in order to avoid unnecessary participant dropout.

### Troubleshooting

Access to a helpdesk or technical support must be provided to learners in case any technology difficulties are experienced. Technical support information can also be posted on a website to assist students in obtaining help in the event of technical difficulties.

### Resources

In order to achieve programme goals, reliance needs to be placed on key resources as described in the table below:

| | |
|---|---|
| **People** | The human capital needed to complete the course. This includes the employees who create the project deliverables as well as the people who must provide input and those who must provide approval. As discussed, for eLearning we need to have people for technology, methodology and management. |
| **Budget** | The financial capital needed to do the work by the facilitators and any financial implications of that. |
| **Equipment** | The tangible items such as computers and appropriate communication tools needed to complete the project. |
| **Time** | The number of hours/days/weeks allocated and allowed for different role players to spend on the project. |
| **Intellectual property** | The subject matter or content that is needed to create the training. This may include electronic files and databases. |

[5] *(IDI, 2009)*

# 5.4 Facilitating eLearning delivery

## Competencies of an eLearning specialist

To further explore the facilitated eLearning method of delivery, we will first consider the competencies necessary to successfully lead an eLearning course. While many of the skills used in face-to-face interventions are relevant, how these skills are applied will depend on the learning management systems (LMS), approaches and different tools used for the eLearning solution. We have discussed the competencies for eLearning specialists in the earlier phases. Here are some specific competencies that the eLearning specialist must possess and that are specifically applicable to the delivery of eLearning. The eLearning specialist:

- Works together with the LMS administrator throughout the delivery
- Facilitates individual and group activities using different features of the IDI LMS
- Manages interaction and learning processes to achieve the learning objectives
- Responds appropriately to participant needs

These competencies include a working knowledge about the following:

- Adult learning principles
- Needs and requirements of the learners
- Socio-cultural norms and practices
- Group dynamics
- Subject matter
- eLearning approaches, media and tools and how to use them

Additionally, there are some attitudes that contribute to a positive learning environment and that facilitate greater participant interaction and lead to the overall success of the eLearning. Ideally, the eLearning specialist should seek to develop the following attitudes:

- Empathy
- Acceptance
- Consistency
- Flexibility
- Objectivity
- Openness
- Professionalism
- Sensitivity
- Patience

## Roles and responsibilities of the eLearning specialist

### Roles

At the delivery phase, the eLearning specialist performs the most critical role within an eLearning course—that of the eLearning mentor or facilitator. An eLearning mentor has various responsibilities, including supporting participants' learning activities and motivating participants during the course. The eLearning mentor is also required to create an interactive environment that inspires participants' confidence in the learning process, motivates full participation, and facilitates and mediates participants' exchanges.

Ideally, mentoring or facilitating would be done in a team of mentors or facilitators. There can be different modes of working among the mentors. There can be an overall mentor for the entire eLearning course, and a lead mentor and support mentor assigned to the various modules within the eLearning course. The specific functions that would be performed by each of these individuals are discussed below. It is also possible for all three of these functions to be performed by one individual (eLearning specialist), given the available resources and other considerations such as the number of participants and the complexity of the course.

eLearning manager – Is responsible for the general administration of the course. Sets the tone for the course, provides important announcements at intervals, activates the learning plan and keeps the course on track. In some cases, the general administration of the eLearning course is done by the eLearning specialist in a management role rather a facilitator or mentor role.

Lead mentor/mentor – The lead mentor/mentor is assigned to a particular module or a group of participants, and coordinates all the activities of that module. Sometimes there can be a support mentor, who provides assistance to the mentor. This person would also function in the absence of the lead mentor if he or she is unavailable at any point during the delivery phase.

### Responsibilities[6]

Delivering an eLearning course involves some specific responsibilities that the eLearning specialist must perform in order to make the experience beneficial for the learner.

Establish credibility – As a prerequisite to the course, the eLearning specialist must demonstrate appropriate knowledge and understanding of the course content to gain credibility. It is necessary to review all course materials and learning plans prior to the start of the training and to become familiar with all the material. This responsibility also requires that the eLearning specialist have a working knowledge of the technological tools available to make optimum use of the LMS.

Communicate objectives – Another responsibility of the eLearning specialist is to ensure that participants are informed of the goals and purpose of the learning solution and what it can accomplish. This would help to put the course into perspective and keep the learning focused throughout the delivery of the eLearning course.

Facilitate learning using various learning methodologies – This requires the eLearning specialist to use varied delivery styles, mechanisms, options or methodologies to fit the needs of the learner. Learner-centred is one of the key principles of IDI's eLearning approach, and therefore solutions should be selected with the learner in mind.

Encourage participation and maintain motivation – The application of techniques and skills at the delivery phase to actively engage all participants in the learning experience is a critical responsibility of the eLearning specialist.

6 ASTD (2008)

Establish climate – The eLearning specialist also needs to establish a learning environment where learners feel safe to try new skills and behaviors. This may be the first time that many learners are taking an eLearning course, which underlines the role of the eLearning specialist to make that experience as comfortable as possible. The climate should be based on the key principles provided in the Chapter 1 of this Textbook.

Maintain a balance – As an eLearning specialist, it is advisable to maintain a balance between:

- being present for the participants and being over-intrusive; and
- providing leadership and guidance, and enabling participants to find their own way.

Deliver feedback – This is one of the most important attributes of eLearning facilitation. In order for the eLearning to be truly effective, the eLearning specialist must provide feedback on the learner's performance during or after the learning experience.

Meaningful feedback requires a partnership and trust between participant and facilitator. This partnership requires the facilitator to provide participants with meaningful and constructive feedback. The ability to provide effective feedback, where a participant thinks about the work he or she has produced, must be taught and encouraged by the facilitator. A facilitator can provide effective feedback by maintaining an encouraging tone and delivering feedback in a reasonable amount of time. Being responsive to inquiries and posting grades in a timely fashion are examples of timely and responsive feedback. Instructors who provide thoughtful feedback provide participants with explicit expectations for the performance outcomes for their work and an opportunity to understand areas where improvement is needed. Additionally, feedback in not limited to the learner; facilitators can also benefit from the feedback that participants provide. This also helps facilitators to assess course content, pedagogy, and feedback for reflection about facilitation in the online environment.

Ensure outcome – Beyond communicating the learning objectives, the eLearning specialist must also ensure that the learning objectives are being met, which should in turn lead to on-the-job application and the attainment of intended business results.

Evaluate solutions – Throughout the delivery phase, the eLearning specialist has to evaluate the impact of learning solutions to ensure their effectiveness. This will be covered in more detail in Chapter 6.

## 5.5 Facilitating discussion forums, evaluation exercises, webinars

While facilitating a module in a course, the eLearning specialist needs to be involved in different ways and in different activities. These include providing feedback in the discussion forum and on exercises, and facilitating webinars, online chat sessions, etc. While facilitating, the specialist needs to ensure that all participants interact and participate.

### Facilitating a discussion forum

- Familiarize yourself with the discussion question and ponder possible solutions or responses for completion.
- Introduce the discussion forum to the participants by distributing the discussion question with specific instructions.
- Intervene when the discussion is veering off in the wrong direction and help to get it back on track.
- Provoke further thinking and reflection by posing more thoughtful and engaging questions.
- Encourage active participation and interactivity throughout, and monitor the quality of the responses posted by the participants.
- Wrap up or summarize the discussion forum after all the participants have had an opportunity to respond.
- Evaluate the learning and provide feedback to the participants in the agreed upon format.

### Facilitating module evaluation exercises

- Familiarize yourself with the case study or exercises and ensure that you can complete the requirements yourself before they are assigned to the participants.
- When encountering any difficulties in completing the case study or exercises, consult with the individuals who designed and developed them.
- Introduce the case study or exercises to the participants in accordance with the learning plan when the students have completed the requisite learning.
- Ensure that participants have been provided with all the instructions and information needed for completion, including scenarios and templates.
- Make yourself available to the participants for guidance on specific queries, but allow them to come up with solutions independently.
- Evaluate the participants' submissions against a predetermined solution, and provide timely and constructive feedback to participants.

### Facilitating a webinar

- Set the agenda for the webinar and inform the participants.
- Coordinate with the LMS specialist to send the online link to the participants ahead of the webinar.
- Be aware of the discussion-leading skills, questioning and responding skills, summarizing skills, and listening skills required for a webinar.
- A webinar is generally linked with a discussion forum or presentation so that participants have some background knowledge of the topic. Make this link clear in the discussion.

## 5.6 Other players in the delivery of eLearning

eLearning manager – As discussed in previous chapters, the eLearning manager coordinates all activities and roles involved at each stage of the process. In the delivery phase, he/she might also act as the course administrator and be responsible for arranging launch event activities, managing participants' subscriptions, keeping stakeholders informed and coordinating other strategic responsibilities such as monitoring the budget, schedule and quality throughout this phase of the process.

IT technical support– The IT technical support addresses all the technology-related issues that may arise in the delivery phase to ensure the smooth operation of the LMS and the eLearning course. Some of the functions include the issuance of user names and passwords at the beginning of the course, managing user profiles, and troubleshooting technical problems.

# 5.7 Risk management

In the delivery of an eLearning course, it is important to plan for contingencies to ensure that there are no disruptions. Here we will consider what can go wrong in the delivery phase and how to mitigate such problems and find timely solutions. Some of the essential considerations with regard to risk management at this phase are as follows.

Troubleshooting – As explained in the previous section, this function is customarily carried out by the IT technical support. It is a critical function to ensure the successful deployment of the eCourse. Ideally, the eLearning specialist should also be familiar with the LMS and be equipped to provide the learner with assistance for the basic functionalities that he/she will be required to perform.

Substitutes – For every eLearning course, especially those that use the facilitated eLearning approach, there should be an element of succession built in to the learning plan. Over-reliance on one individual or eLearning specialist could have detrimental consequences. Make prior arrangements with at least one other person to perform each of the critical roles involved in delivering a successful eLearning course.

Reliable technology backups and backups of learning material – At each phase of the eLearning process or cycle, backups should be emphasized. Backup copies of all the course materials should be made and these backups should be periodically tested.

Participant dropout – The eLearning specialist should be on the lookout for participants who are inactive when the course begins and those who are underperforming or encountering difficulties. These participants should be flagged and the eLearning specialist should personally contact the participant as soon as possible to address the situation. This approach could significantly reduce the number of participant dropouts and result in a more successful course overall.

## 5.8 Ensuring quality eLearning delivery

Quality is one of the essential principles that must be monitored throughout the delivery process. This involves the following:

- Keeping the course on track and on schedule
- Ensuring that participants are engaged and complete requirements
- Motivating and encouraging participants to complete the course
- Assessing and evaluating performance of participants throughout the delivery phase
- Recognizing and responding to the needs of participants to ensure optimum performance
- Answering questions and providing feedback in a timely manner

Monitoring and evaluation are some of the ways to ensure quality throughout the delivery of the eLearning course. These topics will be further articulated in the next chapter.

## 5.9 Summary

In this chapter, we have discussed the following topics:

• Preparing for possible challenges and opportunities, and understanding the strengths and weaknesses of online facilitation, will contribute to successful learning.
• Facilitated or instructor-led eLearning is the preferred delivery approach of IDI mentor led eLearning methodology.
• Delivering an eLearning course involves some specific roles and responsibilities that the eLearning specialist must perform in order to make the experience beneficial for the learner.
• There are specific knowledge and skills required for eLearning facilitation.
• It is important to consider what can go wrong in the delivery phase and how to mitigate any such problems and find timely solutions.

## References

ASTD, *Basic Training For Trainers,* ASTD Press (2009)
IDI, *Learning For Impact - A Practice Guide for SAIs* (2009).
Patterson, L. T, *Managing Training Projects USA*, ASTD Press (2005)

# CHAPTER 6

# Monitoring and Evaluation



## 6.1 Overview

We established in Chapter2, Analysis Phase, that the eCourse training needs and performance objectives are examined at the analysis phase. An eLearning course is designed from thereon using the design model discussed in Chapter 3, Design Phase. The next step is to develop the learning materials and learning activities; Chapter 4, Development Phase, provides guidance on how to develop these various materials and activities. Chapter 5, Delivery Phase, discusses how to implement and manage the eLearning course. All these phases need to be linked to our results framework and implementation strategy identified at the programme level.

An important question to ask at this point is, "How will we know that the eLearning course is succeeding /has succeeded?"

In this chapter, we will focus on monitoring and evaluation. The phases of design, development and delivery of the eLearning course must all work toward the achievement of our intended results and learning objectives. Monitoring and evaluation can be seen as the link between the different phases of the methodology to ensure that the eLearning course is focused on achieving the intended results and outcomes identified at the planning stage.

The aim of this chapter is to help the eLearning specialist monitor and evaluate the eLearning course. In doing so, we need to understand:

- The differences between monitoring and evaluation
- How to monitor eLearning
- How to evaluate eLearning

# 6.2 Differences between monitoring evaluation

Monitoring and evaluation are complementary but distinct processes that help assess the progress and results of an intervention.

Monitoring: A continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress, achievement of objectives, and progress in the use of allocated funds.[7]

Evaluation: The systematic and objective assessment of an ongoing or completed project or programme, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability.[8]

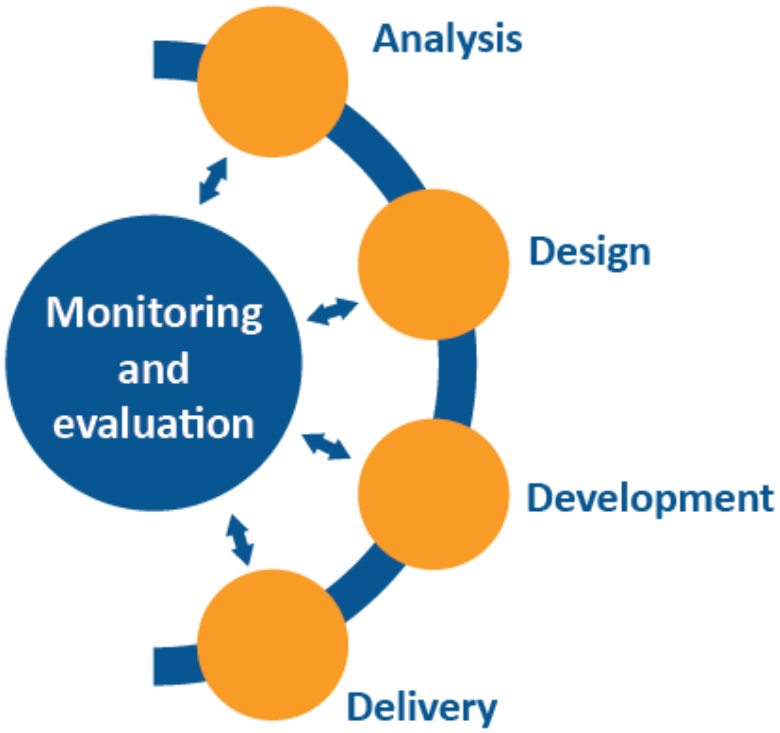
The table below summarises the main differences between monitoring and evaluation.

| | Monitoring | Evaluation |
|---|---|---|
| Why | Compares what is delivered with what was planned to make sure the project is progressing toward its intended objectives and to take preventative or corrective action where progress is off track. | Serves two main purposes:<br>• Learning, to improve current and future interventions by reviewing the achievements of the intervention and considering whether the process followed was the best one to achieve the outcomes. It looks for lessons learned (positive and negative) and best practices that could be applied elsewhere.<br>• Accountability for results and impact. |
| When | A continuing function that takes place throughout the implementation of a project. | Conducted at specific points in time.<br><br>Can take place after implementation of an initiative (summative evaluations) or during the design or implementation (formative evaluations). |
| Who | Usually done by people directly involved in implementing a project. | Is best conducted by an individual who was not involved in the eLearning course. |
| To whom | Is useful mainly to those who manage the project. Could be shared with other stakeholders | Useful to those who manage the project and to stakeholders. |
| Monitoring typically provides data for evaluation, and elements of evaluation occur when monitoring. | | |

[7] *Glossary of Key Terms in Evaluation and Results Based Management,* DAC Working Party on Aid Effectiveness, OECD, May 2004

[8] Ibid.

As seen in the illustration below, monitoring and evaluation are at the centre of all other stages of the systematic approach to training. The arrows are directed both outward and inward, meaning that it is necessary and important to measure success in all the stages and that the results of the monitoring and evaluation feed into all the stages.




## 6.3 Monitoring of eLearning

### Why to monitor the eLearning course

In a general sense, monitoring enables the SAI's decision-makers to gain assurance whether the implementation of any plan is on track, and whether corrective actions and risk mitigation strategies are required to ensure achievement of planned objectives.

Monitoring eLearning involves the collection of data throughout the phases of the eLearning course. By collecting and analysing data, we can identify trends and ensure that our learners get the most out of the eLearning course. Therefore, monitoring functions as a system of preventive, detective, and corrective control.

### Who should do the monitoring

Throughout the different phases of the eLearning course, the eLearning Manager is the person recommended to carry out or implement a monitoring system.

### What needs monitoring in the eLearning course

All phases of the systematic approach to training (analysis, design, development, delivery and evaluation) have to be monitored. Monitoring each of the phases requires gathering information to check if we are on track in terms of, for instance:

- Budget
- Timing
- Number of participants
- Production of outputs
- Observance of policies and procedures, such as gender policy, procurement policy, etc.

In an eLearning environment, two levels[9] require close monitoring:

- Learning plans, and
- Learners' participation and satisfaction.

This means that:

- monitoring should map to the eLearning plans as discussed in chapter 4; and
- monitoring at the level of the learners should focus on the learners' participation and satisfaction with the eLearning process with regard to content, methods, activities, support provided, etc. as discussed in chapters 5 and 6.

| Monitoring level | What to monitor |
|---|---|
| **eLearning plan** | • Overall progress (in percentage terms) of the eLearning course through the modules of learning<br>• Progress (in percentage terms) of each participant toward completing each module<br>• Total number of participants in activities such as discussion forums or chat sessions<br>• Number of participants attempting a quiz and completing the quiz<br>• Number of participants submitting or uploading their assignments on time before the due date<br>• Tracking of completion—participants' progress toward satisfying the specific criteria before completing a module/activity |
| **Learners satisfaction/experience** | • Participants' access to the course<br>• Number of accesses made by the students to the resources of the course<br>• Participants completing a short feedback form on their experience with a particular activity or module<br>• Participants who "like" or "share" a particular course content or activity<br>• Number of clicks or visits to a particular page (to gain insight on the popularity of the content or activity)<br>• Ratings of content or activities by participants (for example, by number of "stars" they give to each, say, between one and five stars)<br>• Number of posts, visits and downloads<br>• Number of questions contributed during a webinar session |

It is important to note that monitoring of learner participation throughout the eLearning course is an important element of managing and ensuring that course objectives are met.

## How to monitor

The following basic steps can be used to develop and implement a monitoring system at the levels of both the learning plan and learner satisfaction.

The monitoring process usually involves the following steps:

[9] IDI, *Learning for Impact Handbook*

- Allocate responsibilities to suitable staff members for data collection, analysis and reporting of results throughout the various stages of the eLearning course.

- Capture data periodically, either in manually or an eLearning system. The latter is recommended as almost all eLearning platforms or learning management systems (LMS) are integrated with the ability to monitor and track progress during the course.

- Compare progress vis-a-vis learning plans.

- Report results of comparison by:
  - highlighting deviations, or likely deviations, from the learning plans; and
  - suggesting actions to address the deviations or prevent the likely deviations.

## Integrated monitoring within the LMS

Monitoring and tracking progress is much more efficient with the use of LMS. This is because almost every LMS platform has the ability to capture, track and monitor learners' activity. For instance, an LMS might automatically send reports on a daily basis concerning completion times and other important data, while other LMS may have more limited tracking capabilities. Many LMS even provide the opportunity to export reports using different formats, such as PDF or CSV, and to apply various filters to view specific data fields quickly and conveniently.

Such information typically includes the following:

- Tracking of learners' progress and completion in terms of:
  - assessments, e.g., online quizzes, number of attempts, pass/fail, actual marks from online assessments, or feedback from specific questionnaires on each module; and
  - content or activity completion, e.g., module readings progress, assignments uploaded, content downloaded and uploaded, participation in an online discussion, etc.

- Page views/visits—how many times participants have visited and clicked onto a specific page within the eLearning course

- User activity logs—tracking the actual activity in discussion forum participation, eLearning modules accessed, usual time of day of accessing the eLearning platform, among others

Some LMS even have graphical views to display monitoring statistics in an easier-to-understand way for the trainers or mentors.

# 6.4 Evaluating eLearning

The major differences between evaluation and monitoring were identified at the beginning of this chapter; however, the following aspects need to be emphasized:

- Monitoring is usually done by people directly involved in implementing a project. Evaluation can be internally or externally led but not facilitated by those who manage the project.
- Monitoring is ongoing and tends to focus on what is happening. Evaluation is conducted at specific points in time to assess how well it happened, what differences it made and how it could be done better in the future.
- Evaluation has a wider scope than monitoring. In addition to all aspects examined by monitoring, evaluation can examine larger changes (result/outcome) that require more methodological rigor in analysis, such as the impact and relevance of an intervention. Evaluation could also question the process phases (analysis, design, development, delivery and evaluation).

The rest of this chapter will provide more information on how to evaluate eLearning results and how to evaluate the eLearning process.

## Evaluation of eLearning results

We can evaluate a training programme at three levels; outputs, outcomes and impacts.

### Outputs

Outputs are the tangible products or services that result from the completion of activities. Outputs are the immediate results of a programme, and as such are those results that are within the control of eLearning specialists, that is, direct products of eLearning processes for which the eLearning specialists are mostly responsible.

In looking at results, both the quantity (reflecting adequate coverage) and quality (as per applicable standards, timeliness) need to be taken into consideration.

### Outcomes

Outcomes are the intended or achieved short-term and medium-term effects of the output. Therefore, outcomes are always achieved after outputs. Outputs are usually measured in the classroom or in the learning environment, whereas outcomes often measure performance in the workplace.

One way of measuring outcome is to develop indicators, both quantitative and qualitative, such as percentages, timescales, return on investment and other quantifiable aspects of organisational performance—for instance, numbers of complaints, staff turnover, attrition, failures, wastage, non-compliance, quality ratings, achievement of standards and accreditations, growth, retention, etc.

Learning objectives simulate or duplicate the performance requirements of a job, serve as “tests” of the participants’ performance, and indicate to the mentors whether participants have learned the material. Outcomes relate to changes in institutional performance, behavioural change among individuals, or changes in practice and policy. Outcomes try to measure whether participants retain and use what they learned after returning to the workplace. They try to demonstrate that the eLearning met the performance objective. Outcomes can be influenced but not controlled by the eLearning specialist.

### Impacts

Impacts measure how performance impacts the organization and can add value and benefit to the country. There is evidence that eLearning contributes to organisational effectiveness. During the analysis phase, eLearning specialists gather information from senior management about their expectations for training and its possible impact on their organisation. If the goal of the eLearning was to improve the quality and rigor of annual audit reports, a means must be found to measure quality and rigour. To continue our example regarding writing audit criteria, the impact of having staff write better audit criteria may be that audits are better focused and therefore provide improved benefits for citizens.

Impacts are usually related to the impact on the performance of the organisation and the impact of the organisation on its environment. Since impact is influenced by many factors in addition to the job performance of an SAI's staff, it is nearly impossible to find proof of the impact of training programmes.

Fewer organisations conduct impact evaluations. This is due primarily to two factors:

- Impact evaluation is a complex and costly process. Unless a training project is of sufficient size and scope, involving large expenditures of resources, the cost is likely unjustified.
- It is extremely difficult to form a direct link between training and organisational impact. There are simply too many variables that render the results doubtful at best.

Therefore, as eLearning specialists, we will focus on evaluation of outputs and outcomes.

## Evaluation measurement plan

IDI recommends the following format for evaluation planning and monitoring.

| | INDICATORS | BASELINE<br>*What is the current condition?* | TARGET<br>*What is the target condition?* | DATA SOURCE<br>*How will it be measured?* |
|---|---|---|---|---|
| **Impact** | A1 | A2 | A3 | A4 |
| **Outcomes** | B1 | B2 | B3 | B4 |
| **Outputs** | C1 | C2 | C3 | C4 |

The format above consists of rows (A, B, C) and columns (1,2, 3, 4). The rows show the different levels of evaluation and the columns show the information required. The first column shows indicators: here, we will show the performance indicator that we are using (for example, in C1, the number of auditors trained in writing audit objectives).

The second column will show the baseline or current condition.

The third column shows the target (what we want to achieve).

The final column shows the source of the information (the LMS will show how many auditors have completed the course). The source of information should be consistent for both the baseline and the target so that we know we are measuring like with like.

**Example:**
The SAI has a very strong Quality Assurance Unit that reviews all audit reports are complying with ISSAIs. The Quality Assurance Unit advises that only 4% of performance audits are complying with ISSAIs. The main area of failure is audit criteria. Auditors are not writing ISSAI compliant audit criteria. This is the current condition that the SAI wishes to change. The SAI carries out an analysis that shows this performance gap is due to a lack of knowledge and skills. The SAI decides to have a new eLearning course on writing ISSAI compliant audit criteria for performance audit.

The eLearning specialist will then design a course that trains the auditor how to write ISSAI compliant performance audit criteria. This course will be offered to auditors within the SAI. Hopefully auditors will sign up for and complete this course. The immediate output of the eLearning course could be a number of auditors who have been trained in writing ISSAI compliant audit criteria. The eLearning specialist can control this output by running a high quality eLearning course for a suitable number of participants.

Once training has been carried out, its effectiveness must be measured to ensure that the original goals have been met. The target goal was an improvement in the number of ISSAI compliant audit criteria, not just an increase in the number of trained auditors. The SAI will be able to see if this has happened by reviewing the statistics from the Quality Assurance Unit on the percentage of audits complying with ISSAIs. The eLearning Specialist can influence the achievement of this objective (for example by offering a good training) but they cannot control the outcome.

| | INDICATORS | BASELINE<br>*What is the current condition?* | TARGET<br>*What is the target condition?* | DATA SOURCE<br>*How will it be measured?* |
|---|---|---|---|---|
| **Impact** | A1 | A2 | A3 | A4 |
| **Outcomes** | % of audits assessed as having audit criteria that are ISSAI compliant | 4% | 80% | Report from the QA function within the SAI |
| **Outputs** | Number of auditors completing the eLearning course on 'Writing ISSAI compliant performance audit criteria' | 0 | 20 | LMS |

The eLearning manager can monitor progress toward the targets established.

## Evaluation of the process

The eLearning process has a direct impact on the achievement of the expected results from the eLearning course. The better the process, the higher the results. It is almost impossible for an eLearning project to be completed successfully without a well-designed and implemented eLearning process. Evaluation of the process will provide information about reasons behind failure or success. Analysis, design, development, delivery and evaluation all have evaluation needs that evaluators should include in their projects. Even the evaluation process needs to be evaluated.

The following table contains some examples of questions an evaluator may ask when assessing each of the phases of the systematic approach to training.

| Phase | Examples of evaluation questions |
|---|---|
| **Analysis** | Was the learning need confirmed?<br>Did designers conduct a learner analysis?<br>Did designers conduct a task analysis?<br>Did designers define performance objectives? |
| **Design** | Was the design linked to the results of the analysis phase?<br>Did the design take into consideration the adult learning principles?<br>Did the design follow the 9-step model?<br>Was there a learning objective for each session?<br>Does the learning objective include the 4 dimensions of condition, performance, standards and evaluation?<br>Was there an eLearning course plan?<br>Was there an eLearning plan for each module? |
| **Development** | Were the learning materials appropriate to the audience?<br>Are the learning activities based on the learning objectives?<br>Was there an evaluation of the learning objectives?<br>Does the core text comply with the agreed structure?<br>Is the eLearning course interactive?<br>Were the visuals attractive and easy to understand? |
| **Delivery** | Was it easy for participants to get access to the eLearning course?<br>Was there enough interaction between participants and facilitators?<br>Was the course conducted as per the schedule and eLearning plan?<br>Were the participants satisfied with course?<br>Did the participants learn from the course? |
| **Monitoring and evaluation** | Did the monitoring take place as planned?<br>Did management take actions based on results of monitoring?<br>Was the evaluation done on time? |

## 6.5 Summary

Monitoring and evaluation are an important part of the eLearning course. Although they appear to be the final part of the eLearning process, they are functions carried out throughout the various phases of analysis, design, development and delivery.

We start the chapter by explaining the differences between monitoring and evaluation. Then monitoring is examined in detail. The chapter explains what needs to be monitored and, more important, how to monitor and who should carry out this task. Monitoring is defined as the process of collecting data on the eLearning course to assess progress and completion against our learning plan. Specifically, in an eLearning course, monitoring has become a much easier task for mentors and course managers due to advancements in eLearning platforms. Monitoring as part of any modern learning management system is integrated with the ability to collect and store data and information on the progress of the course. This enables the programme manager or mentor to track and review the various statistics about participation in, and completion of, related eLearning modules and activities. This ability to track on a timely basis the progress of the eLearning course will inform the instructors/mentors on progress with regard to the eLearning Plan and the experience of the participants in relation to the learning methods used throughout the eLearning course.

Evaluation, on the other hand, is defined as a process of determining the merit, worth, or value of something, or the product of that process.

A very systematic and comprehensive evaluation model presented in the chapter describes three levels of evaluation: output, outcome, and impact.

If the SAI has an evaluation scheme that incorporates both results and process, and if the evaluation strategy and tools have been developed and applied, then the SAI can make decisions about the following, among others:

- The need for the programme (face-to-face/eLearning) in the future
- The need for modifications to the program
- The need to revise learning content and learning strategies

## References


IDI, *Handbook on E-Enabled Blended Training Programme for Trainers,* Oslo, Norway (2009)

IDI, *Learning for Impact: A Practice Guide for SAIs,* Oslo, Norway (2009)

ISD, *From the Ground Up, A No- Nonsense Approach to Instructional Design,* ASTD Press.

IDI, *Draft Handbook on SAI Strategy, Performance and Reporting* (2015)

*http://www.cid.org.nz/assets/Key-issues/Good-Development-Practice/Factsheet-17-Monitoring-versus-evaluation.pdf*