

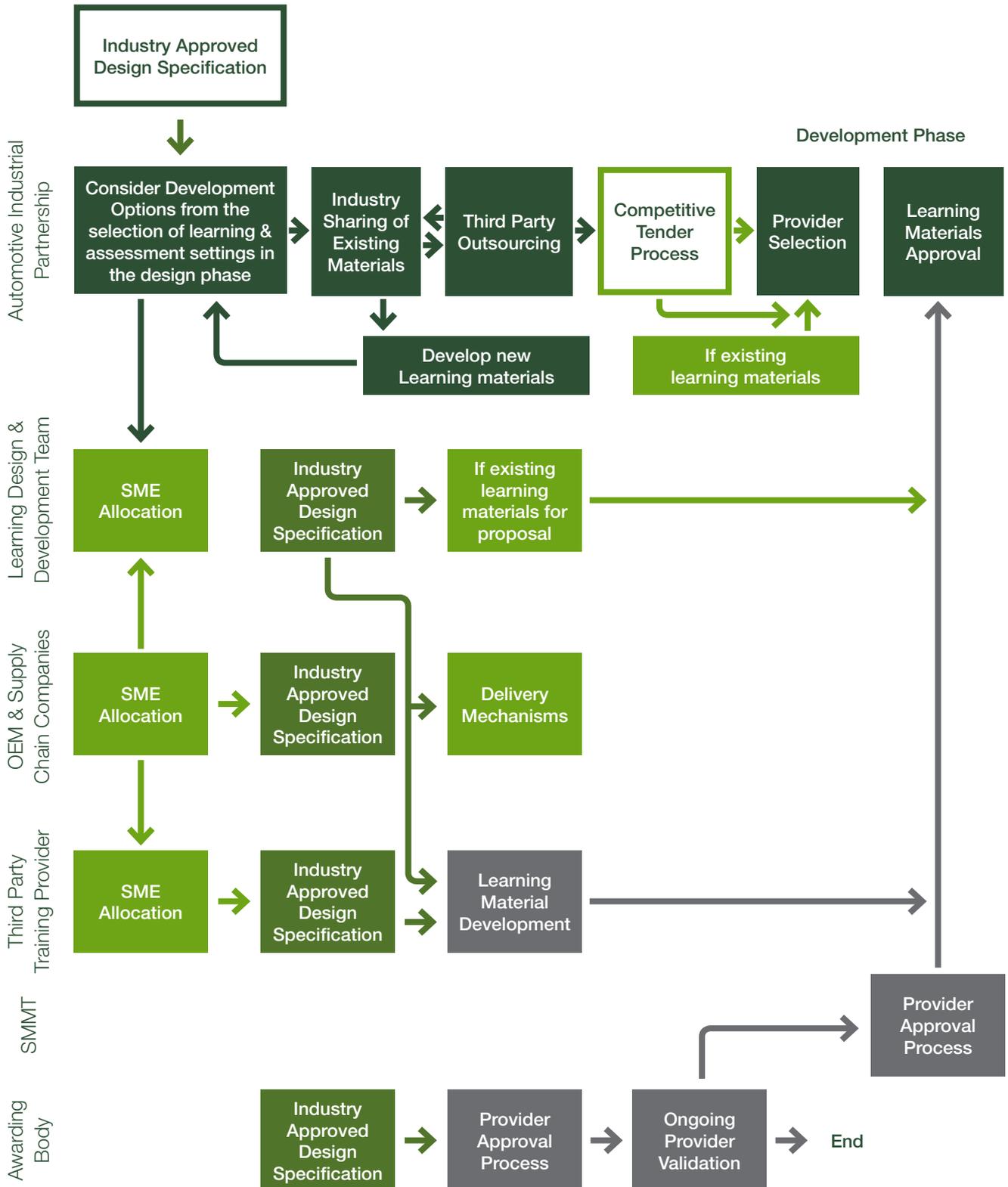


***Learning Analysis,
Design and Development
Framework***

Contents

Development Phase	3
Development Phase of Learning Solutions	4
Depiction of the Inputs and Outputs of the Development Phase	5
Considering Development Options	5
Industry Sharing of Existing Materials - Fit for Purpose	6
Third Party Outsourcing and Competitive Tendering	6
Module Plan	7
Lesson Plan	7
Learner Material Guidelines	8
Review of Training Materials	8
Assessment Validation	8
Review of Training Materials Utilised	9
Reference Materials	9

Development Phase

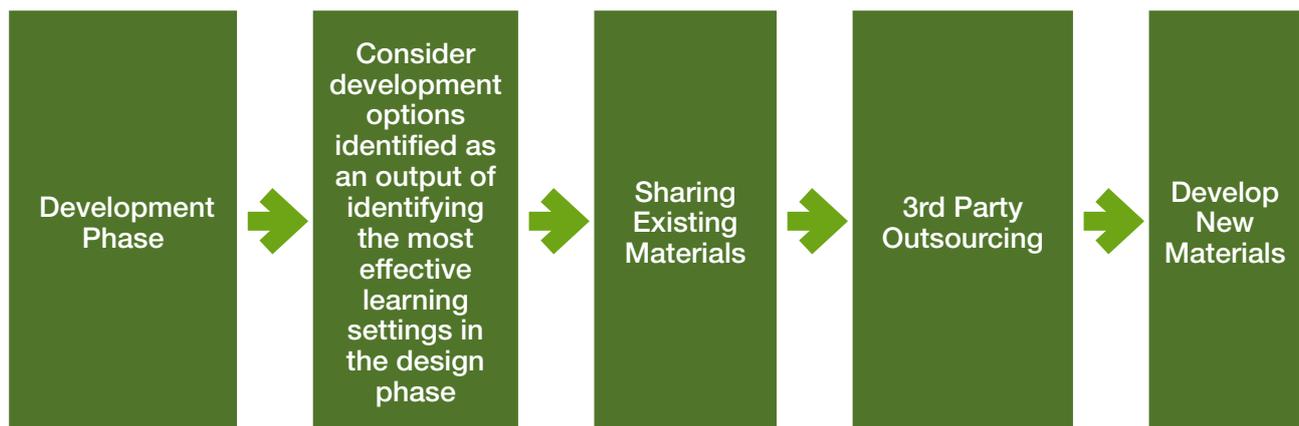


Development Phase of Learning Solutions

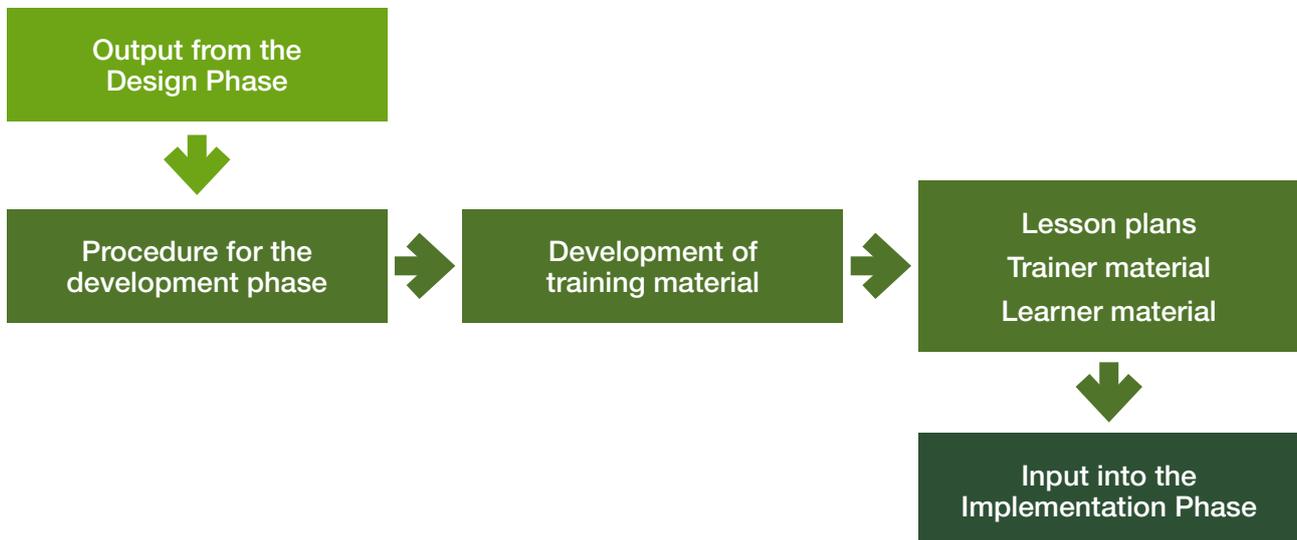
The purpose of the development phase is to produce the training materials required for the implementation of the initial and the ongoing learning solutions.

The process for the development of learning materials cannot be undertaken in isolation and is an output of a detailed design phase. Both the delivery method and delivery materials should be appropriate for the achievement of specific learning outcomes, as detailed in the learning design specification.

Development Process for Learning Materials



The depiction below is the inputs and outputs of the Development Phase



Considering Development Options

It is recommended that the Automotive Industrial Partnership, having reviewed the industry design specification, will decide on the most appropriate option for the development of learning materials. The options considered will be influenced by the learning settings discussed in the design phase.

Development options could comprise of:

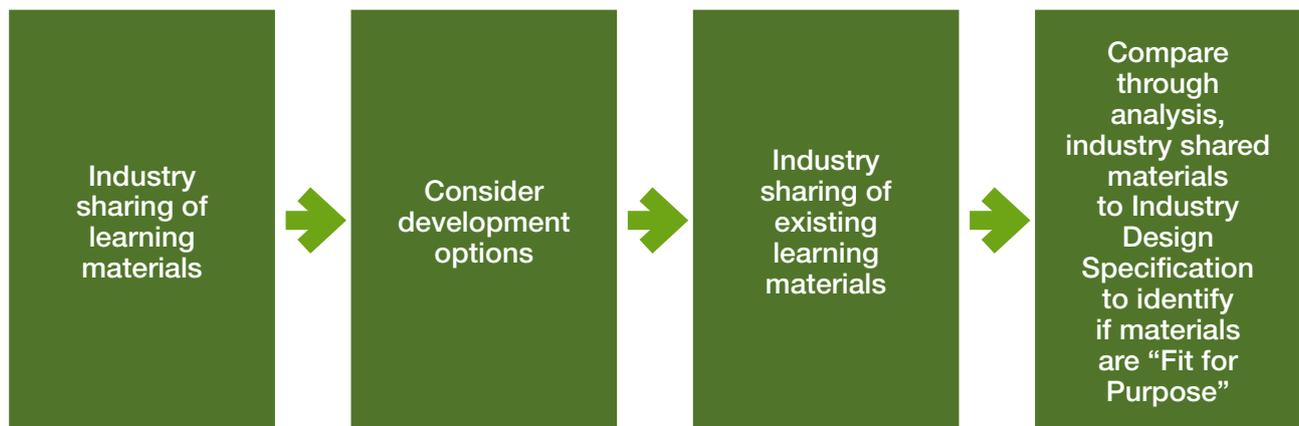
1. Utilising existing learning material and sharing best practice amongst Automotive Industrial Partnership member organisations.
2. Automotive Industrial Partnership members collaborating to develop new learning materials.
3. Automotive Industrial Partnership organisations taking the lead role in the development of new learning materials based on local organisational need.
4. Outsourcing to a preferred third party provider with specialist knowledge of the subject matter.
5. Outsourcing to a third party provider via a competitive tendering process.

Having decided on the most appropriate method for the development of learning materials, it is recommended that the Automotive Industrial Partnership will inform the learning design team who will undertake further learning development activities before seeking industry approval.

Industry Sharing of Existing Materials - Fit for Purpose

It is recommended that the Automotive Industrial Partnership, through discussion and collaboration, will establish the proposed learning solution. Through these discussions it may be apparent that a member organisation has already developed learning materials for its own local needs that could be adapted.

Process for the Industry Sharing of Existing Learning Materials



Please note, if there are learning materials in existence that could be considered as a solution, they will not be deemed fit for purpose unless they have undergone a full analysis to guarantee their effectiveness and suitability for wider automotive industry roll out.

If materials are deemed not fit for purpose, it is recommended that the industry design specification is referred back to the Automotive Industrial Partnership for further consideration on the options.

Third Party Outsourcing and Competitive Tendering

This relates to the process where a client or the industry acquires the services of a third party by extending an invitation to tender proposal. In general, the tender response that reflects most favourably to selection criteria such as quality, efficiency and price will be successful. In simple terms the competitive tendering process consists of four main elements:

- **Pre-selection of providers (optional)** – in certain circumstances the client/industry will select from its own approved supplier listings.
- **Tender information and brief** – detailing the scope of the work or services required.
- **Tendering procedure** – detailing the selection criteria and how questions arising from any bid will be dealt with.
- **Tender document** – the form in which the provider responds to the invitation to tender.

Process for Third Party Outsourcing and Competitive Tendering



Module Plan

The lesson plan produced in the design phase specifies a number of modules that together make up a learning solution. At this stage a module plan is developed to control the development process down to the most detailed level of documentation required. The first item required is a plan for each module, which will allocate the associated training objectives to lessons of appropriate duration. The purpose of the module plan is to provide an overview of the module and to maintain the master copies of the documentation. The following items are contained in the module plan:

- Purpose of the module, in terms of a list of terminal and enabling objectives and their allocation to lessons.
- Expected learner entry level in relation to their current knowledge, skills and attitudes in the form of programme and/or module prerequisites.
- Timetable.
- Requirements for implementation.
- Applicable set of assessment questions.
- Evaluation standard forms.
- Record of approvals.
- Record of amendments and or modifications.

Lesson Plan

The lesson plan allows a trainer to prepare for and then deliver a learning solution utilising only the plan. The following items are generally included as part of the lesson plan documentation:

- Requirements for implementation eg classroom, basic principles simulator, number of trainers etc for the particular lesson.
- Training objectives to be introduced in the lesson.
- Trainer materials, including any references to items such as text and/or workbooks.
- Learner materials will include references to items such as text and/or workbooks.
- Formative and summative assessment questions for the subject matter.
- Any portable audio visual aids eg overhead projectors etc.
- References eg product technical specifications, procedures and manufacturer's instructions.
- Record of approvals.
- Record of amendments and/or modifications.

Training material will be aligned to the various training settings. Also, lesson plans for Continuous Professional Development (CPD) will vary from those used for initial training.

Learner Material Guidelines

Charts, graphs, tables and other illustrations emphasising key learning points will be located within the text and in close proximity to the related information and will be sequenced according to the visual aids utilised by the trainer.

The literacy level of training materials will be consistent with the required literacy entry level of the learners. Objectives will be provided to the learner as part of written training materials and will be intuitive, up to date and concise.

Essential reference information will be easily accessible to learners within the associated training materials. However, training materials will not repeat or include product specific information that is included in controlled documentation and is subject to change, but will contain references to other associated documents and how they can be located.

The materials will refer to the job which the learners are being trained for by describing that job environment, how the information will be applied and why it is important to learn that information.

Slides are commonly utilised to supplement trainer explanations. Copies should be included as part of the written material given to the learners, if the material does not include them as illustrations. All learner materials should be consistent and aligned with the trainer material.

Review of Training Materials

Material developed for utilisation should be reviewed before it is applied to ensure completeness, technical accuracy and support of the training objectives. It is recommended that all training material is piloted in advance of actual implementation by utilising a small group of learners or other personnel. The goal of the review is to ensure that training materials:

- Are technically accurate and current.
- Achieve training objectives.
- Support the learning process.

The review should be undertaken by Subject Matter Experts who can provide feedback to the programme developer. Lesson plans, text material, learner material, workbooks, audio visual media and test items should be reviewed and deficiencies identified for correction.

Assessment Validation

Each item identified for assessment should be validated. Validation is performed in three stages:

- Peer review and assessment validation panels.
- Pilot course analysis.
- Continuous analysis of learner results. This is particularly important for early implementations of new lessons and modules.

For the first of the above stages a checklist will be prepared regarding the properties of a valid question. Examples of these properties are:

- To which training objective does the item relate?
- Is the model answer correct and does it relate appropriately to the training objective? **A model answer is the answer necessary to obtain full marks for the associated question.**
- Is the question consistent with other questions to be used in the same assessment?
- Is it clear to a potential learner what portion of the total score is assigned to the question?
- Is the question clear and unambiguous?
- Does the model answer contain a clear, unambiguous marking scheme with alternative, partially acceptable answers to those considered 100% correct?

Review of Training Materials Utilised

After revisions from the review have been made, the training materials will be piloted with a small group of individuals who possess the entry level requirements expected of future learners.

During this preliminary stage, the actual environment in which the training is to be conducted should be simulated as closely as practically possible. The training materials should be presented as intended for actual utilisation and all assessments administered and scored.

Data should be collected for subsequent analysis and utilised to improve lesson plans, learner material etc, as well as to check the trainer’s teaching skills. It should be recognised that this preliminary conduct of training may not always be feasible, particularly with modules of lengthy duration. An alternative is to conduct small group assessments on the most important sections of the module. Modules or parts of modules not submitted to small group review should receive increased monitoring during their first implementation.

Results from the preliminary conduct of training are valuable in determining the extent to which the training achieves the intended training objectives. Failure of the learner to achieve satisfactory assessment results may necessitate revision of the training materials or teaching methodologies. However, in the event of low scores, care should be taken to check that the assessment items are in line with the job related knowledge, skills and attitudes and hence the training materials utilised in the learning solutions.

Completion of post-training questionnaires by learners, supplemented by interviews, should be utilised to provide data to assist in the formative and summative evaluation of training, depending on whether the evaluation is undertaken during the pilot or live rollout.

Reference Materials

Material	Author/ Source
Taxonomy for Learning, Teaching and Assessing	Lorin W. Anderson and David R. Krathwohl
Teaching Training and Learning a Practical Guide	Ian Reece and Stephen Walker
Employers’ Views of the Jobs and Skills Required for the UK Automotive Industry February 2016	Sara Bettsworth and Phil Davies



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