Curriculum for

Certified Professional for Software Architecture (CPSA)®

Course
T3

Train-the-Trainer

2025.1-RC1-EN-20250203

Table of Contents

The abbreviation "e. V." is part of the iSAQB's official name and stands for "eingetragener Verein" (registered association), which describes its status as a legal entity according to German law. For the purpose of simplicity, iSAQB e. V. shall hereafter be referred to as iSAQB without the use of said abbreviation.

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Authors, Contributors, Reviewers

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We thank all contributors for their valuable input and dedication to improving the quality of software architecture training.

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Introduction: General Information About the T3 Course

A Train-the-Trainer (T3) course is designed to enable trainers to efficiently and effectively deliver high-quality training content in iSAQB®-accredited trainings. It is primarily intended for trainers and prospective trainers who conduct or intend to conduct iSAQB® CPSA Foundation-Level trainings, but will not exclude software architecture trainers at other levels from participating. It focuses on enhancing expertise in the subject matter, effective teaching methods, creating a positive learning environment, and professional training delivery. Participants learn to design and deliver engaging, high-quality courses, manage group dynamics, and handle challenging training situations. The course also emphasizes continuous improvement and alignment with iSAQB® values and standards. While it enhances training delivery skills, it is not a prerequisite for trainer accreditation.

Important Terms and Concepts

Communicating about requirements on trainers for a train-the-trainer course training other trainers comes as confusing as it gets. Therefor we have to clarify the basic concepts and terms right from the start:

Learning Unit (LU)

A distinct section of the curriculum that focuses on a specific topic or set of related topics. Most Learning Units are designed to be taught as cohesive blocks, typically lasting several hours. However, LU02 (Mastering and Conveying the FL Curriculum), is cross-cutting and integrated throughout the course rather than taught as a single block. Each Learning Unit comprises multiple Learning Goals.

Learning Goal (LG)

A specific, measurable outcome that participants should achieve by the end of a Learning Unit or, in the case of cross-cutting units, by the end of the course. Learning Goals describe the knowledge, skills, or competencies that participants should gain.

Train-the-Trainer (T3)

As we will use the term "Train-the-Trainer" extensively, it makes sense to abbreviate it to "T3", as in T3 trainer, T3 training, etc.

T3 training, Train-the-Trainer training, T3 course

A T3 training or T3 course enables (future) trainers to efficiently and effectively deliver iSAQB® -accredited trainings. This curriculum describes the contents of such a training.

T3 trainer

A person delivering a T3 training.

T3 participant (T3P)

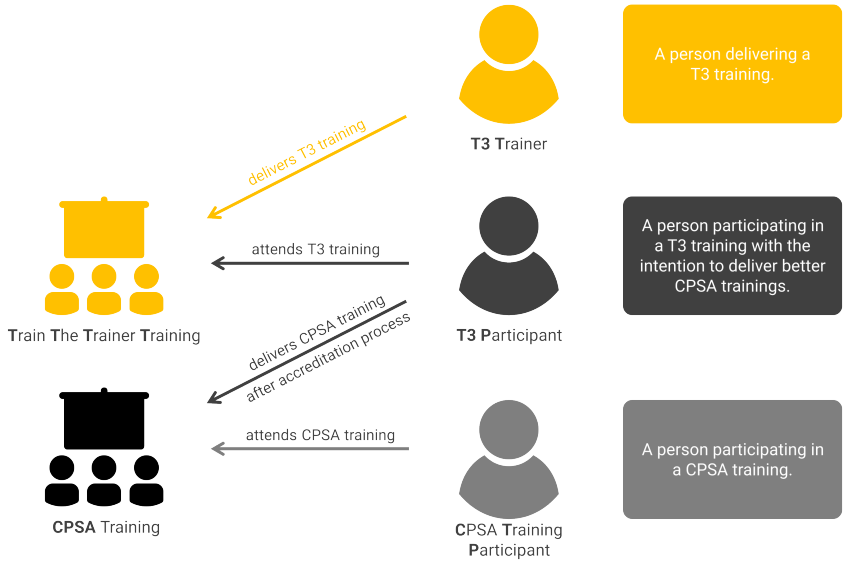
A person participating in a T3 training with the intention to deliver better CPSA (Certified Professional for Software Architecture) trainings.

CPSA training

Any iSAQB® accredited Foundation Level (CPSA-F®) or Advanced Level (CPSA-A®) training. Most T3P will attend a T3 training to get started delivering FL trainings.

CPSA student, student, CPSA training participant (CTP)

We are going to use the term "student" or "CPSA student" exclusively for referring to persons attending a CPSA training (the future customers of the T3P) in order to distinguish them from T3 participants.



If you become confused or got lost in abstraction, just recall: This curriculum describes how to deliver a T3 training. A T3 training teaches how a CPSA training should be conducted.

What Is the Train-the-Trainer Course About?

The Train-the-Trainer (T3) course, while not mandatory, plays a supportive role in preparing individuals to become effective iSAQB® trainers. It focuses on:

- Deepening understanding of the CPSA Foundation Level curriculum
- Enhancing didactic skills specific to software architecture training
- Developing abilities to create and adapt relevant scenarios and exercises
- Providing insight into operational aspects of iSAQB® trainings

Although not a guarantee for accreditation, the T3 course can significantly boost a trainer's competence and confidence in both subject matter and training delivery. This preparation can be valuable during the accreditation process, which includes an interview to assess the trainer's expertise and teaching ability. The T3 course complements the formal accreditation requirements, such as professional experience and certification, by offering practical skills and knowledge essential for high-quality training delivery.

What Does a Train-the-Trainer Course Convey?

A train-the-trainer course will enable (future) trainers to efficiently and effectively deliver high-quality training content in iSAQB®-accredited trainings by sharing best practices and lessons learned from experienced trainers.

It is primarily intended for trainers and prospective trainers who conduct or intend to conduct iSAQB® CPSA Foundation-Level trainings, but does not exclude software architecture trainers at other levels from participating.

It enables new iSAQB® accredited trainers a fast start into training delivery, improves the quality of their training delivery by providing efficient knowledge transfer and exam preparation to their training participants.

It offers continuing education for accredited software architecture trainers and prepares future software architecture trainers for accreditation.

It communicates iSAQB®'s values and objectives to new trainers.

It conveys knowledge of didactics, education methodology, and psychology of learning with relevance towards iSAQB®-accredited software architecture trainings.

It assures that trainers are well-versed in the specific iSAQB® CPSA curriculum covered in the course (typically Foundation Level) and share a common understanding of its concepts.

However, a T3 training is neither a guarantee for passing the trainer accreditation nor is it a prerequisite.

What Can T3 Training Graduates Do?

T3 graduates can:

- Independently and methodically create and deliver software architecture trainings that comply with the iSAQB® curriculae.
- Anticipate and handle challenging training situations.
- Adapt, structure and delivery their training in a way that participants enjoy the training experience beyond delivering just the contents.
- Reflect their training performance and enable further development and improvement of their training skills.
- Communicate and live the values of iSAQB®.

Prerequisites for Participating in a T3 Training

T3P should:

- Completely fulfill all prerequisites listed for participants in a Foundation Level course.
- Having cleared the FL exam is not mandatory but advisable.
- Possess extensive and repeated experience in providing presentations and trainings for medium sized groups of adult learners.
- Have basic background knowledge of didactics, e.g. from studies of this discipline or equivalent activities.
- Be able to draw from extensive practical experience working in software industry or hands on with design/development assignments, substantially surpassing those required for FL participants.

Requirements for Providing a T3 Training

T3 trainers should

- Substantially exceed the prerequisites required for T3P and active iSAQB® trainers.
- Have a multi-year active history of providing iSAQB® accredited trainings.
- Be able to draw from a didactic education or a long-standing history of being an active trainer.
- Have cleared the FL exam or already work as an accredited iSAQB® trainer.

Further Prerequisites

- The T3 trainer must have access to accredited training material to use it as example on how to provide a training.
- As T3 trainings are currently focused on the FL curriculum, T3 trainers **may** be eligible to obtain a licensed copy of the accredited Foundation Level slide deck from iSAQB® GmbH. For Advanced Level modules, trainers must provide their own training materials.
- When providing a T3 training, the type and source of training material used as an example **must** be stated in the training announcement.

Essentials

Curriculum Structure and Recommended Durations

This curriculum is structured into six learning units (LUs) based on specific subject areas. The following diagram and table outline the division of the curriculum into LUs and their recommended durations. As illustrated in the figure below, LU02 serves as the central element that connects all other LUs, specifying the crucial requirements to become an accredited trainer for the CPSA-FL of iSAQB®. The primary goal of this LU is to master and convey the learning objectives outlined in the iSAQB®'s CPSA-FL curriculum, translating them into a well-structured training program. All other LUs function as complementary elements surrounding LU02, focusing on various accompanying aspects. For instance, LU01 addresses the iSAQB® in general and its accredidation ecosystem at a high level. LU03 introduces the learning goals from a didactic perspective, emphasizing how to effectively deliver the training. In contrast, LU04 requires T3 participants to design the structure of their courses and create schedules. LU05 concentrates on designing example scenarios and exercises to deepen the teaching content within the courses, while LU06 focuses on the communicative and operational aspects of the accredited trainer role, including exam organization and communication with certification bodies for exam coordination, as well as liaising with the iSAQB® board.

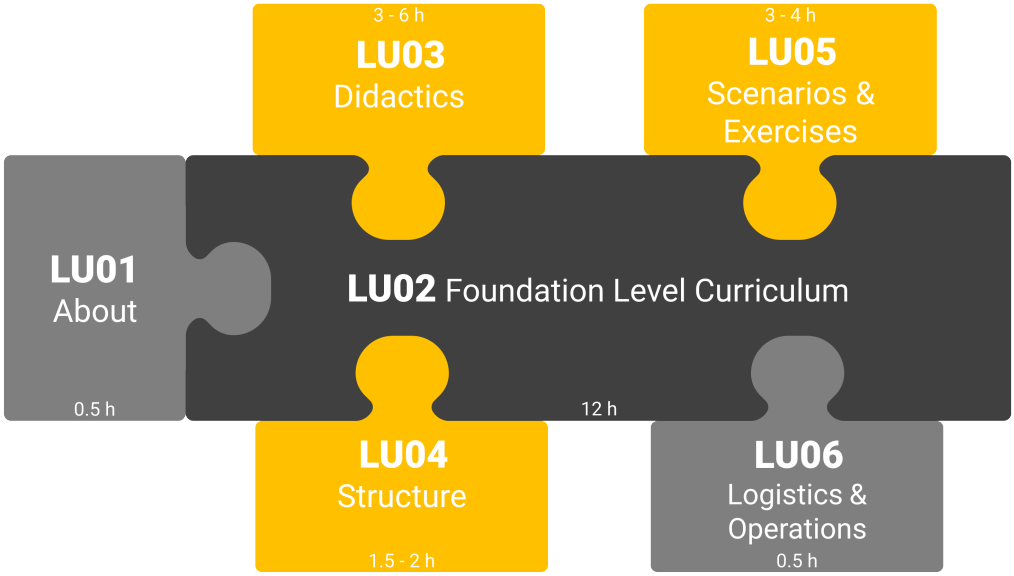


Table 1. T3 Curriculum Outline and Recommended Minimum Durations

Learning Unit and Key Skills	Duration (min)
LU01: About iSAQB® Trainings and Trainers Understand iSAQB®'s values, objectives, and value proposition. Recognize trainer obligations and importance of continuous improvement.	30-60
LU02: Mastering and Conveying the FL Curriculum Gain comprehensive understanding of the FL curriculum. Develop skills to effectively teach content, handle challenging questions, and prepare students for exams.	720

Learning Unit and Key Skills	Duration (min)
LU03: Didactics, Methods, Tools and Best Practices Learn fundamental didactic principles, teaching methods, and best practices for effective knowledge transfer in software architecture training.	180-360
LU04: Structure and Planning Develop skills to structure courses, create effective timetables, and adapt content to participant needs while adhering to curriculum requirements.	90-120
LU05: Designing and Evaluating Example Scenarios and Exercises Learn to create, adapt, and evaluate relevant example scenarios and exercises that reinforce learning objectives and engage participants.	180-240
LU06: Logistics and Operational Aspects of Trainings Understand operational aspects of organizing and delivering iSAQB® trainings, including venue selection, exam organization, and communication with iSAQB®.	0-60
Total	**1200-1560 (20-26 hours)**

Structure of Learning Units

Each LU always contains the following sections:

- **Topic:** Coarse grained topic or learning area.
- **Purpose:** The intention behind a LU.
- **Learning Objectives:** A list of learning objectives or learning goals (LGs) that are covered by the LU. We strive to formulate learning goals as a learning outcome by using the formula "Behavior + Concept or Skill = Learning Outcome" according to [Bowman 2008].

LUs **may** contain additional sections describing takeaways for students, important discussion points, things to avoid when presenting the topic, references, and recommendations for didactics, knowledge transfer, and preparation. If you would like to add or enhance these sections, please submit suggestions in the form of issues in the GitHub repository of the T3 curriculum [T3GitHub].

Supplementary Information, Terms, Translations

To the extent necessary for understanding the curriculum, we have added definitions of technical terms to the iSAQB® glossary and complemented them by references to (translated) literature.

LU01 - About iSAQB® Trainings and Trainers

Duration: 30-60 min	Practice time: n/a

Topic

Conveying the values and objectives of the iSAQB®.

Purpose

Future trainers should understand and live the core values of the iSAQB®. Therefore, it is important for future trainers to know the iSAQB®'s self-image and understanding of values, and to understand their impact on the organization and delivery of trainings. Their conduct should reflect this understanding of values.

Learning Objectives

LG 1-1: Understanding the objectives of a T3 Training

T3P should be able to reflect on the purpose of a T3 training. They can explain the difference between a T3 training and a conventional CPSA training. T3P can identify and express their own learning goals regarding the T3 training.

LG 1-2: iSAQB® values and principles

T3P can explain the values and principles of the iSAQB® to their students and interested third parties. They can explain why the iSAQB® strives to provide high-quality trainings with substantial and immediate practical value.

LG 1-3: Value of an iSAQB® training

T3P can describe the target audience of iSAQB® trainings and the added value such trainings deliver to the target audiences. They can name the key differentiators of iSAQB® trainings and describe what distinguishes iSAQB® trainings from comparable or similar training offers. They can explain the importance of tailoring trainings to the target market and audience. They can provide examples of different target markets (e.g. automotive, telco, finance, …) and name strategies on how to meet their needs, e.g. applying specialized or tailored examples and shifting the focus of the training.

LG 1-4: Obligations of trainers and training organizations

T3P can describe the obligations that are implied on trainers and training organization by acting according to iSAQB®s values. They can provide examples and counter examples for the expected behavior, demanour and business practices. T3P can name resources for acquiring more information about managing workload on the trainer side, improving mental strength, self-talk regulation, relaxation methods, and self-regulation techniques. They know and introduce the State-of-the-Art of iSAQB® in their individual country where their target group for the training is located.

LG 1-5: Further development of trainer competencies

T3P can describe the importance of developing and improving their skills and competencies. They can name and describe strategies and resources for continuous improvement of the training.

Takeaways for Students

- Deliver high-quality trainings that reflect iSAQB® core values and provide practical value
- Explain the benefits and objectives of iSAQB® trainings to your future students
- Adhere to the ethical standards expected of an iSAQB® trainer
- Adapt your training approach to suit Foundation Level participants' needs
- Continuously improve your training skills and software architecture knowledge
- Conduct yourself professionally, recognizing your impact on iSAQB®'s reputation
- Stay connected with the iSAQB® community for updates on best practices and the curriculum
- Balance theoretical concepts with practical applications in your training
- Foster a learning environment aligned with iSAQB®'s commitment to excellence

Important

An effective trainer is a subject-matter expert with comprehensive knowledge of Software Architecture & Engineering. They draw on extensive practical experience to illustrate concepts and provide real-world examples. By continuously practicing, staying informed about industry trends, and anticipating future developments, they ensure their expertise remains cutting-edge. This solid foundation is essential for building credibility, demonstrating confidence, and addressing a wide range of questions and challenges that may arise during training.

Trainers must possess strong methodological skills to design and deliver impactful courses. They have a clear vision for course structure and content, ensuring a coherent and engaging learning experience. Adept at conveying complex information clearly and concisely, they tailor their approach to meet the specific needs of adult learners with diverse backgrounds and skill levels. By designing stimulating, varied, and sustainable training sessions, they keep participants motivated and focused throughout the learning process. Trainers understand how to prepare and present learning content effectively, utilizing various media and teaching methods to cater to different learning styles and optimize knowledge retention.

Creating a positive and cooperative learning environment is crucial for effective training. Skilled trainers can seamlessly integrate participants into teamwork activities, understanding the nuances of group processes and dynamics. They excel at recognizing and resolving conflicts, dealing with disruptive behavior, and maintaining a professional feedback culture. By building strong relationships with participants and fostering open communication, they create a supportive and inclusive atmosphere that encourages active participation, learning, and growth.

Highly effective trainers possess strong personal competencies that enhance their teaching abilities. They are self-motivated and maintain enthusiasm even in challenging situations, starting each training with an inspiring kickoff that sets a positive tone. Their confidence, professionalism, and competence create a sense of trust and credibility with participants. Trainers are skilled at managing and mitigating stress, utilizing their personal resources in a balanced and effective manner. They can adapt to various situations, handle unexpected challenges, and consistently deliver high-quality training experiences.

Reference Material and Resources for Learners and Trainers

To understand the iSAQB's values, principles, and training requirements discussed in this learning unit, trainers should familiarize themselves with several key resources:

- The official iSAQB® website [iSAQB®] provides comprehensive information about the organization's

mission, structure, and certification programs. It serves as the primary source for understanding the overall context of iSAQB® trainings.

- The iSAQB® Code of Conduct [iSAQB-CoC] is essential reading for all trainers, as it outlines the professional and ethical standards expected in the delivery of iSAQB® trainings. This document will help trainers to understand their obligations and expected behavior.
- The iSAQB® Downloads section [iSAQB-Downloads] contains various resources and documents that support trainers in their professional development and help them understand the value proposition of iSAQB® trainings.
- For maintaining current knowledge and accessing community resources, the iSAQB® GitHub repository [iSAQB-GitHub] provides access to curricula updates and training materials, supporting the continuous improvement aspects outlined in this LU.
- The Foundation Level Curriculum [iSAQB-FLC] is a crucial reference for understanding the relationship between T3 training and conventional CPSA training as well as for understanding how to effectively deliver value to training participants.

LU02 - Mastering and Conveying the FL Curriculum

Duration: 720 min	Practice time: 30-60% of duration

Topic

Consolidate participants' comprehension of the FL curriculum by illustrating and practicing how its content can be taught.

Purpose

While future FL trainers should have a solid professional background on software architecture as a prerequisite, not everyone will know every detail of the FL curriculum's content. During a T3 training session, possible knowledge gaps must be identified and addressed.

In addition, the FL curriculum only defines **what** should be taught, but does not provide explanations of the content or best practices for teaching it. In some areas of the discipline of software architecture, there is not yet a normative body of knowledge or a consolidated view on certain concepts and methods. So it is a matter of communicating the iSAQB®'s view (or sometimes the multiplicity of views).

Last but not least, the learning goals of the FL curriculum also provide a good basis for demonstrating how content can be didactically prepared and delivered and allows participants to actively practice this. Therefore, piggybacking the other learning goals of the curriculum based on this learning unit is recommended.

In general, LU02 serves as a cross-cutting topic related to all other LUs in this curriculum, focusing on mastering and conveying the learning objectives outlined in the iSAQB®'s CPSA-FL curriculum and deriving them into a well-structured training program. All other LUs are complementary elements surrounding LU02, addressing various accompanying aspects that need to be included within the training program. For instance, LU01 provides a general introduction to iSAQB® and its accreditation ecosystem. LU03 introduces the learning goals related to didactic methods essential for teaching activities within the training. In contrast, LU04 concentrates on designing the content structure and scheduling of the training sessions. LU05 requires T3 participants to be able to create their own example scenarios and exercises to facilitate knowledge transfer and deepen understanding for the CPSA training participants. Finally, LU06 focuses on the communicative and operational aspects essential for being an accredited FL trainer. This includes coordinating with certification bodies and liaising with the iSAQB® board to provide brief introductions during their training. The aim is to reduce the complexity for the FL training participants in understanding how the CPSA-FL exam works, as well as keeping them informed about the current and future activities of the iSAQB® board.

Learning Objectives

LG 2-1: Profound understanding and broad knowledge of the FL curriculum

T3P can explain the content described in each learning goal of the FL curriculum and respond to in-depth questions from learners.

LG 2-2: Handle incomplete, fuzzy, or inconsistent knowledge

For content where there is no clear consensus in the software architecture community or where there is a significant difference between academic and practical viewpoints, the T3P can explain and contrast the different perspectives and explain the reasons behind them. The T3P can interpret technical terms and content into the common language of their target training group to eliminate misunderstandings during

translation, in accordance with international and national standards.

LG 2-3: Turning the FL curriculum into an FL course

T3P should understand and be able to demonstrate by themselves how everything described in LU3 to LU5 is applied to the FL curriculum. They should recognize best practices in action and be able to apply didactic methods and tools (see LU3) to the content of the FL curriculum by observing how it's done and practicing it themselves. They should be able to recognize and demonstrate how course structuring and planning are applied to the FL curriculum (see LU4) and how examples tie in (see LU5).

LG 2-4: Common challenges and questions

T3P should be able to identify and explain common difficulties students encounter with the FL curriculum. They should demonstrate effective strategies to handle challenging situations and anticipate frequently asked questions for each topic. T3P should develop clear, concise responses to these questions and recognize when a query goes beyond the FL scope, providing appropriate guidance for further learning.

LG 2-5: Handling advanced Level questions

T3P should be able to recognize questions that go beyond the Foundation Level scope and into Advanced Level territory. They should demonstrate techniques for addressing these questions appropriately without derailing the FL training. T3P should provide brief, informative responses that acknowledge the advanced nature of the query while redirecting focus back to relevant FL content. They should also be able to suggest resources for further study on advanced topics when appropriate.

LG 2-6: Effective FL exam preparation

T3P should be able to explain the FL exam format, time frame, and scoring system to students. They should be able to demonstrate how to organize and conduct effective exam preparation sessions, highlighting the relationship between learning objectives and exam questions. T3P should be able to guide students through sample questions, providing strategies for time management and question interpretation. They should also be able to outline the exam procedure and offer tips for reducing test anxiety.

LG 2-7: Use of materials provided by iSAQB®

T3P should be able to effectively utilize and explain the purpose of materials provided by iSAQB®, including the curriculum, glossary, and mock exams. For slide deck material, only the Foundation Level reference slide deck may be available through licensing from iSAQB® - Advanced Level slide decks must be created or obtained by the trainers or training providers themselves. T3P should demonstrate how to incorporate these resources into their training sessions and guide students in their use for self-study. They should understand how these materials evolve over time and be able to explain the process for staying updated. They should also be familiar with the procedures for contributing to the FL curriculum and other iSAQB® materials when appropriate.

Takeaways for Students

The curriculum is neither a textbook nor a blueprint for a FL course. But it will help you to define the scope and structure of your own course and by getting a walkthrough to an existing FL course provided by an experienced trainer (which is how a T3 training should be delivered) you will get the hang of what is important and how to deliver it yourself to your audience.

Important

This is **not** a LU intended to be delivered as a standalone part of a T3 training. Instead, it runs throughout

the course and serves as a vehicle to explain the learning goals of the other units. It provides participants with an opportunity to practice what they have learned in a real-life setting while simultaneously exploring the contents of the T3 curriculum.

We propose the following approach to ensure T3P thoroughly understand and can effectively teach the FL curriculum:

- Guide T3P through a comprehensive Foundation Level training slide set:
  - Explain presentation techniques for various concepts
  - Emphasize critical points
  - Identify and address potential "show stoppers"
  - Demonstrate strategies to overcome common challenges
- Assign curriculum sections to T3P:
  - Divide content into manageable parts
  - Have T3P present their sections as if delivering a real FL training
  - Provide immediate, constructive feedback on:
    - Presentation style
    - Content delivery
    - Handling of potential questions or difficulties
- Encourage T3P to:
  - Draw from personal experience when explaining concepts
  - Adapt explanations to different audience backgrounds
  - Prepare for and practice answering in-depth questions

This method allows T3P to experience firsthand the challenges of curriculum delivery while providing a safe environment for practice and improvement.

The hands-on approach helps T3P internalize both curriculum content and effective training techniques, bridging the gap between theoretical knowledge and practical application.

In general, LU02 serves as the central element of the entire T3 curriculum, surrounded by complementary learning units (LUs). The iSAQB®'s CPSA-FL curriculum forms the foundation of LU02, which is a prerequisite for T3 participants, as future accredited CPSA trainers, to fully master and understand. Alongside transferring the knowledge points from the CPSA-FL curriculum into a well-structured CPSA training program, T3 participants are also tasked with addressing questions raised by CPSA training participants and guiding them in their preparation for the CPSA exam. The CPSA training program should encompass content that covers the objectives, values, and mission of the iSAQB® board, as well as its accreditation ecosystem, which includes trainers and training providers.

Additionally, appropriate didactic methods need to be developed by each individual T3 participant. Since different CPSA trainers may have their own strengths and weaknesses, various didactic methods may be more or less suitable for them. It usually takes time for each T3 participant to identify their optimal teaching strategies. However, applying diverse didactic methods within the CPSA training—rather than homogenously teaching in a theoretical manner—facilitates participants' understanding of the knowledge points provided. This will enable T3 participants, as future accredited CPSA trainers, to effectively evaluate

the learning performance of their trainees. Example scenarios and exercises can invigorate the training atmosphere and enhance participants' mastery of abstract concepts, representing a unique and marketable aspect of individual CPSA trainers. Each T3 participant should be able to integrate their distinctive example scenarios and exercises, as specified in the learning objectives of LU04, into the training. Given that explaining example scenarios and conducting exercises collaboratively with CPSA training participants can be time-consuming, a well-structured approach and effective time scheduling, as described in LU05, will be beneficial.

During the CPSA training, trainers can organize a brief session introducing the iSAQB® organization and the CPSA exam, following communication with the iSAQB® board and certification body. This will help familiarize CPSA training participants with the exam environment, boosting their confidence and enabling them to handle subsequent exams more effectively. In addition, CPSA trainers usually also work together with the training provider for organizing the CPSA exam. All these operational aspects like communication and organization-related activities are also included as learning objectives in LU06 of this T3 curriculum.

Reference Material and Resources for Learners and Trainers

The iSAQB® Foundation Level Curriculum ([iSAQB-FLC]) already provides an extensive list of references covering the Foundation Level content. The following references represent a possibly arbitrary collection of books that we personally consider relevant for teaching and understanding software architecture concepts in the context of Foundation Level training. This list is neither complete nor definitive - it simply reflects our current preferences and experiences. Most of them focus on effective strategies for software architecture. Use them to illustrate the content of LU02.

When choosing materials and resources for learners and trainers, good references in languages other than English or German can also be considered, depending on the countries of the participants. Banned media channels should be avoided.

Richards/Ford - Fundamentals of Software Architecture [Richards+2020]

Provides a comprehensive guide to software architecture, covering both technical aspects (patterns, components, engineering practices) and practical considerations (team management, presentations, metrics), with principles applicable across technology stacks.

Ford et al. - Software Architecture: The Hard Parts [Ford+2021]

Covers **practical challenges in architecture decision-making**, ideal for **interactive discussions in training**. More suited for advanced learners as this is primarily about the trade-offs of distributed systems.

Bass et al. - Software Architecture in Practice [Bass+2021]

Provides a comprehensive theoretical and practical foundation for software architecture, covering both fundamental principles and their application to modern technological challenges (like mobility, cloud, and DevOps). The book emphasizes architecture’s role in achieving quality attributes and managing system evolution.

Starke et al. - arc42 by Example [Starke+2023]

A **collection of real-world architectural case studies** that can be used in training.

Neward et al. - Architectural Katas [Neward+]

Interactive architecture exercises, ideal for **active learning methods** in software architecture training.

LU03 - Didactics, Methods, Tools and Best Practices

Duration: 180-360 min	Practice time: 20-50% of duration

Topic

Provide a basic introduction to didactics and learning theory as well as to methods, tools, and best practices for delivering trainings.

Purpose

To deliver high-quality trainings and enhance the learning outcome for CPSA training participants. Trainers not only have to be knowledgeable of the subject matter. They should also know how to teach it effectively and efficiently adhering to iSAQB®'s standards and modern educational standards. Better didactic methods engage, activate, and motivate students. This facilitates long term knowledge transfer and ensure that knowledge can be better applied in practice.

Learning Objectives

LG 3-1: Adult learning and blooms taxonomy

T3P should be able to describe the unique characteristics and special challenges of adult learning, including handling heterogeneous groups with different skill levels and backgrounds. They should know the training relevant parts of bloom's taxonomy [Wiki-Bloom] and be able to map the needs and expectations of participants to them.

LG 3-2: Learning Objectives and benefits

T3P should be able to explain the importance and benefits of clear, concise, and verifiable learning objectives. They should be able to formulate such learning objectives and to show how each part of the training maps to one or more of them. They should be able to adapt learning objectives for younger and/or less experienced participants. T3P should be able to handle incomplete/inconsistent knowledge and different perspectives on topics and concepts.

LG 3-3: Attention and learning performance

T3P should know factors that influence attention of learners (e.g. usual attention span, time of day, relation to breaks, tiredness, …) and be able to adjust the timing of the training and adapt training methods accordingly.

LG 3-4: Distraction factors and learning performance

T3P should recognize and be able to describe distraction factors that impact learning. They know and can apply strategies to reduce and/or mitigate distractions. This includes:

- Identifying early warning signs of potential challenges that might affect learning
- Implementing preventive measures to minimize distractions
- Managing knowledge level mismatches within participant groups
- Addressing technical issues that may disrupt the learning process
- Converting potentially disruptive situations into learning opportunities

LG 3-5: Training methods

T3P should be able to describe and apply a variety of different training methods and can describe how a change of method influences learning outcomes. They should be familiar with different methods and concepts, such as the 4Cs by Sharon Bowman [Bowman 2008], and be able to apply opening and closing methods. T3P should understand how to use exercises, demos, and case studies effectively, including grouping participants for exercises (see LU05) and be able explain the trade-offs between short and simple exercises vs. complex scenarios, case studies, and continuous exercises.

T3P should be able to provide and request feedback, use various feedback methods, and objectively evaluate participant feedback. They should also be proficient in:

- Facilitating interactive classroom discussions and practical application of theory
- Employing techniques to activate participants and improve learner engagement
- Using various media and teaching tools effectively, including haptic (e.g., flipcharts, whiteboards) and digital (e.g., PowerPoint, survey tools, videos) resources
- Applying collaboration and distance learning tools (e.g., Teams, Zoom, digital whiteboards like Miro) for virtual training environments

LG 3-6: Communication and presentation skills for trainers

T3P should be able to demonstrate effective communication and presentation skills essential for training delivery. This includes:

- Understanding and applying basic rules of rhetoric
- Using appropriate language in the classroom, considering the various dimensions of communication
- Employing effective body language to enhance training delivery
- Developing strategies to manage stage fright and maintain composure during presentations
- Handling non-constructive behavior, disturbances, and conflicts between participants professionally
- Applying conflict resolution techniques when necessary
- Facilitating inclusive and productive group discussions
- Adapting communication style to different audience needs and knowledge levels
- Maintaining professional composure during difficult interactions
- Applying appropriate escalation procedures when necessary

Takeaways for Students

Training adult professionals differs significantly from teaching students. Keep in mind:

- You’re facilitating peers, not instructing subordinates
- Leverage participants' diverse professional experiences to enrich discussions
- Be prepared to justify the practical value of each topic
- Expect and manage challenging questions that may go beyond the curriculum
- Balance theoretical concepts with immediate, real-world applications
- Adapt quickly to different industry perspectives and potential disagreements
- Respect participants' time by ensuring all content is directly applicable to their work

- Anticipate, prevent, and professionally handle difficult training situations to maintain a constructive and inclusive learning environment

Important

Effective training is not just about delivering content, it's about creating an engaging and a dynamic learning experience that ensures long-term knowledge retention and application.
LU03 plays a crucial role in helping trainers master adult learning principles, effective communication, and interactive teaching methods that elevate CPSA training beyond passive knowledge transfer.

Key Considerations for Effective Training

- **Adult Learning Theory in Practice:** Adult learners bring diverse backgrounds, expectations, and experience levels. The training should bridge the gap between theory and practice by making abstract concepts tangible through real-world application. Incorporating experiential learning techniques such as discussions, problem-solving, and case studies ensures deeper understanding and concepts retention.
- **Balancing Theory with Practical Application:** While foundational concepts provide structure, learning is most effective when participants actively engage with the material. To achieve this, trainers should limit long theoretical lectures and instead integrate interactive exercises, hands-on demonstrations, and real-world scenarios to reinforce key ideas
- **Cognitive Load and Attention Management:** Learning effectiveness depends on sustaining attention and minimizing distractions. Trainers should consider factors such as session duration, cognitive fatigue, and participant engagement levels. Implementing structured breaks, interactive activities, and periodic reflection points can help sustain focus

Common Pitfalls in Teaching Technical Concepts

- **Overloading Participants with Information:** Trainers may be tempted to cover too much content in too little time, leading to cognitive overload. Instead, focus on depth over breadth, ensuring that key concepts are fully understood before progressing.
- **Assuming a Uniform Knowledge Level:** Participants often come from varied professional backgrounds, making it essential to assess prior knowledge and adapt explanations accordingly. To enhance the learning experience, encourage peer discussions and mixed-experience group work to facilitate mutual learning.
- **Lack of Interactivity and Engagement:** Passive learning methods such as lengthy slide presentations, often fail to sustain attention. Instead, trainers should use structured discussions, hands-on exercises, and active participation techniques to keep learners engaged.

Strategies for Activating Participants

- **Make Learning Relevant:** Use real-world case studies, **Architecture Katas**, and industry examples to connect theory with practice.
- **Encourage Knowledge Exchange:** Facilitate peer teaching, structured debriefs, and collaborative exercises to deepen understanding.
- **Address Learning Barriers:** Be aware of common distractions and cognitive fatigue, implementing engaging session formats to sustain focus.

Addressing Common Misconceptions

- **"More content leads to better learning":** Overloading information reduces retention. A structured, well-

paced approach is far more effective.

- **"All learners absorb information the same way":** Some participants grasp concepts visually, others through discussion or hands-on experience. A multi-modal approach ensures inclusivity.
- **"Technical expertise alone makes a great trainer":** A trainer's ability to facilitate discussions, create an engaging atmosphere, and adapt to learners' needs is just as critical as their subject matter expertise.

Conclusion

A **great trainer** doesn't just deliver only knowledge but also they **enable learning**. By applying interactive techniques, cognitive psychology insights, and real-world exercises, trainers can create engaging, high-impact training that ensures long-term skill development.

Discussion Points

Handling Challenging Training Situations

As a trainer, you should be able to anticipate, prevent, and effectively handle challenging situations that arise during training. This section provides detailed guidance on managing common challenges and maintaining a productive learning environment.

Common Challenging Scenarios and Response Strategies

Knowledge Level Mismatches		
Situation: Participants in the same training session have significantly different levels of experience or technical knowledge.		
Early Warning Signs	**Prevention Strategies**	**Response Tactics**
• Some participants consistently answer all questions while others remain silent • Visible frustration from advanced participants during basic explanations • Less experienced participants showing signs of being overwhelmed	• Conduct pre-training surveys to assess knowledge levels • Prepare additional materials for both basic and advanced levels • Design flexible exercises that can be approached at different depths	• Use pair programming or buddy system with mixed skill levels • Provide optional advanced challenges for faster participants • Create small groups with balanced expertise levels

Resistant Participants		
Situation: Participants who show resistance to the training content or methodology.		
Early Warning Signs	**Prevention Strategies**	**Response Tactics**
• Negative comments about the training's relevance • Body language indicating disengagement • Challenging the trainer's expertise or methodology	• Start with clear expectations and learning objectives • Include real-world examples demonstrating practical value • Build in early opportunities for participant input	• Acknowledge concerns respectfully • Link content to participants' actual work challenges • Offer alternative perspectives or approaches

Technical Disagreements		
Situation: Disagreements arise about technical approaches or best practices.		
Early Warning Signs	**Prevention Strategies**	**Response Tactics**
• Heated discussions about technical implementations • Participants insisting on their preferred solutions • Group becoming divided over technical approaches	• Acknowledge multiple valid approaches upfront • Prepare examples of different solutions • Set ground rules for technical discussions	• Use disagreements as teaching moments • Focus on principles rather than specific implementations • Document different approaches and their trade-offs

Group Dynamic Issues		
Situation: Interpersonal conflicts or difficult group dynamics affecting the learning environment.		
Early Warning Signs	**Prevention Strategies**	**Response Tactics**
• Clique formation within the group • Dismissive behavior between participants • Dominant participants overshadowing others	• Establish clear communication guidelines • Rotate group compositions for exercises • Create opportunities for all participants to contribute	• Address disruptive behavior privately • Use structured discussion formats • Implement specific turn-taking techniques

Time Management Challenges		
Situation: Difficulty maintaining the training schedule due to discussions or technical issues.		
Early Warning Signs	**Prevention Strategies**	**Response Tactics**
• Sessions consistently running over time • Important topics being rushed • Participants expressing concern about pace	• Build in time buffers • Prepare prioritized content • Have backup plans for technical issues	• Use parking lot technique for off-topic discussions • Adjust exercise complexity based on available time • Provide additional resources for deeper exploration

Escalation Guidelines - When to Escalate

Know when to escalate issues:

- Persistent disruptive behavior
- Serious conflicts between participants
- Technical infrastructure problems
- Health or safety concerns

Escalation Guidelines - Escalation Process

1. Document the situation
2. Consult with co-trainers if available
3. Contact training coordinator or supervisor
4. Follow up after resolution

Professional Atmosphere Maintenance

Tips for maintaining a professional learning environment:

- Stay neutral during conflicts
- Use positive reinforcement
- Focus on solutions rather than problems
- Model professional behavior
- Maintain consistent boundaries
- Document incidents and resolutions

Reference Material and Resources for Learners and Trainers

These sources cover essential didactic concepts and modern methods for training software architects. When using these resources, focus on adapting the concepts and methods to your specific training context and participant needs. The goal is not to apply every technique from every resource, but to select and combine approaches that best serve your learning objectives and audience.

Brown et al. - Make It Stick [Brown+2014]

A research-backed book on the psychology of learning, providing insights into **effective knowledge retention strategies**. The book explores how people learn and retain information most effectively. Trainers can apply the spacing effect and retrieval practice in their training design, implement frequent knowledge checks, and revisit key concepts throughout the training to reinforce learning. The book also demonstrates how to use concrete examples and analogies to make abstract concepts more memorable.

Bowman - Training from the Back of the Room [Bowman 2008]

A **practical guide to interactive and engaging teaching methods** specifically designed for adult learners. The book introduces innovative approaches to increase participant engagement and knowledge retention. Trainers can implement the 4Cs Model (Connections, Concepts, Concrete Practice, Conclusions) to structure their training sessions, use brain-friendly techniques to increase learner engagement, and design activities that encourage learners to teach and learn from each other.

Dirksen - Design for How People Learn [Dirksen 2016]

A **practical book on learning design** on learning design that explains how adults learn and how training methods should be adapted accordingly. The book focuses on practical approaches to designing effective learning experiences. Trainers can apply cognitive load theory principles when introducing complex technical topics, design learning experiences that account for different learning preferences and prior knowledge levels, and create engaging visual aids and examples that support learning objectives.

Fink - Creating Significant Learning Experiences [Fink 2013]

A **modern perspective on goal-oriented didactics** that provides valuable insights for structuring training sessions. The book offers an integrated approach to designing learning experiences that have lasting impact. Trainers will learn to structure learning objectives using Bloom's Taxonomy with specific examples, design activities that promote deep learning and long-term retention, and create assessment methods that align with learning objectives.

Gee - The Anti-Education Era [Gee 2013]

A critical discussion of **modern learning formats and digital teaching methods**, particularly valuable for online and hybrid training environments. The book examines how digital tools can either enhance or hinder learning. It helps trainers design courses that maintain engagement in hybrid or online training environments, develop strategies to combat digital distractions, and create meaningful digital interactions that support learning objectives.

Hunter et al. - The Art of Facilitation [Hunter+1995]

A fundamental work on **facilitation techniques and group dynamics** that provides valuable insights into guiding interactive learning sessions. The book focuses on creating and maintaining productive group learning environments. Trainers can apply effective facilitation techniques to manage group discussions and activities, handle difficult situations and conflicts in the training room, and create an inclusive learning environment that encourages participation from all learners.

LU04 - Structure and Planning

Duration: 90-120 min	Practice time: 20-50% of duration

Topic

Lay out a course structure.

Purpose

Breaking a course curriculum down into a course structure "that works" and brings value to students. Course structures "that work" take into consideration the prerequisites and needs of the participants, the required coverage of the curriculum, and the time constraints and imposed on the course - and possibly the implications of the course format (presence vs. online vs. online over a longer time period). At the end of the day, a specific timetable with course units, exercises and possible additional activities must be created.

Learning Objectives

LG 4-1: Derive learning objectives from prerequisites

T3P should be able to systematically work out what the prerequisites and needs of their target group are and describe these in target group-specific learning objectives.

LG 4-2: Design didactic path or roadmap

T3P can design and document a didactic path (what is covered in what order? what builds on each other?) through the learning material, compare it with the learning objectives of the curriculum and, if necessary, identify gaps (what is not yet included) or content that goes beyond the curriculum.

LG 4-3: Modularize contents

T3P can break down learning content along the didactic path into modular units (sets) with clearly delineated learning objectives and appropriate granularity, taking into account their audience and their context, the form of the training (online, in-person, or hybrid), and making use of different didactic methods (see LU 3).

LG 4-4: Create timetable

T3P can schedule these units and choose appropriate methods or methodological building blocks to deliver the learning units. To do so, they should be able to explain how different didactic methods complement each other over the duration of a course and over the flow of a day.

LG 4-5: Adapt timetable

T3P are able to adapt the time schedule to the learning progress and the needs of the participants, if necessary, also during the training.

LG 4-6: Organize pre and post training experience

T3P are able to create material that students can use to prepare for the training in order to use the time in the training as efficiently as possible. They are also able to wrap up the information after the training and set the students on their continuing path of learning. This includes:

- Curating a list of recommended literature and resources for participants, including:
  - Basic literature to be read before the training
  - Additional materials for in-depth study of specific topics
  - Resources for continued learning after the training
- Designing post-training follow-up activities to reinforce learning and encourage practical application
- Creating or recommending means for ongoing support or community engagement for participants after the training

LG 4-7: Preparing and using supplementary training materials

T3P should be able to create, select, and effectively use supplementary training materials to enhance the learning experience. This includes:

- Developing high-quality handouts that reinforce key concepts and provide additional resources
- Selecting appropriate accompanying materials that support the learning objectives
- Creating pre-reading lists or materials to prepare participants before the training
- Developing post-training resources to support continued learning and application of skills
- Understanding copyright and licensing considerations when using or creating materials
- Effectively integrating supplementary materials into the overall training structure and timeline

LG 4-8: Preparing for and delivering your first CPSA training

T3P should be able to outline a comprehensive plan for preparing and delivering their first CPSA training. This includes:

- Creating a pre-training checklist covering all necessary preparations
- Developing strategies to anticipate and handle common challenges faced by new trainers
- Understanding how to effectively use the provided training materials and resources
- Knowing how to set up the training environment (both physical and virtual) for optimal learning
- Developing contingency plans for potential technical issues or unexpected situations
- Reflecting on the training experience and identifying areas for improvement

Takeaways for Students

- To successfully lay out a course structure, it is necessary to both look at the curriculum content and decide how to structure it in a meaningful way
- Your course should tell a story instead of just delivering slide content.
- Take care of the macro and micro structure - training days and modular units within training days (sets).

Important

Curriculum content does not equal course structure!

Discussion Points

- What is a good set length?
- Differences between different training formats and time allocations.
- Conflicting needs of training providers and customers or participants (e.g. over how many days?)

Don’ts

- Don’t think a course structure can be derived by looking at a slide deck only.
- Don’t think a course structure can be derived by looking at the curriculum only.

Reference Material and Resources for Learners and Trainers

Reference Material and Resources for Learners and Trainers

Bowman - Training from the Back of the Room [Bowman 2008]

A **practical guide** that shows how to create training that sticks by introducing innovative approaches to increase participant engagement and knowledge retention.

McCarthy - About Teaching: 4MAT in the Classroom [McCarthy 2000]

A comprehensive guide that introduces the 4MAT model for structuring learning experiences. The book helps trainers understand how to structure learning units in a logical and engaging way that accommodates different learning styles and promotes effective knowledge transfer.

Liberating Structures [LibStruc]

An online collection of facilitation methods and structured exercises that provides trainers with practical tools to facilitate discussions and maintain participant engagement. These structures can be particularly valuable for adapting content dynamically during training sessions and ensuring active participation from all attendees.

Didactics and Transfer

Method Hints

Make T3 participants aware of the importance to know their audience

When setting up the structure for a training it is necessary to start with the student in mind. The two most important questions are:

1. Who is my student and what are they trying to achieve by attending the training?
2. What do I want the student to *understand, know, or be able to do* after the training?

These aspects of learning are part of Bloom’s Taxonomy [Wiki-Bloom], a set of models to classify educational learning.

The iSAQB® curriculae describe training prerequisites and learning goals, but they don’t describe how to deliver a training that is able to meet the needs and expectations of training participants. Therefore it is crucially important for trainers to create a course structure that helps delivering a training that is worthwhile for our students. We will describe a few things that can and should be kept in mind when setting up a course structure for your training.

The Golden Thread

Each training should have a golden thread that is a story line that guides the students (and us trainers)

through the content.

This can be an actual story, where we 'tell' the curriculum in the form of a made-up organization or challenge. The content and learning material would then be organized and aligned on the story line.

It can also be structured by a flow of work, e.g. how does a software architect work when thinking about, designing, creating agreement, or executing software architecture.

No matter how your golden thread looks like, it should be able for you and your students at any time to have a look at the bigger picture or "roadmap" of the content structure and understand exactly what you are doing, where it fits into the bigger picture, and why it is important for developing a software architecture.

The golden thread of your training should give answers to the following questions:

1. Why is this important / why should I learn this? Connect the challenges your students are attempting to solve with what the training as a whole will offer to overcome them right at the beginning of the training; most people prefer to understand why they should do things before they are able to do them.
2. What do I have to learn? This is the main part of your training where you provide your students the opportunity to learn what the training offers; this question is tightly interwoven with
3. How am I going to apply this? Offer exercises and make the training as experiential as possible; this will connect the theoretical learning with the students' experience and will create a deeper learning
4. What else is there? Offer guidance that extends beyond the scope of your training so that students interested in delving deeper into something are able to do so; this can be offered by the end of a training to create a learning journey that doesn't stop with the completion of the training.

These four questions also nicely align with Sharon Bowman's 4C Model [Bowman 2008] (no to be confused with Simon Brown's C4 Model), so if you want to dig deeper on this, maybe have a look at https://www.bowperson.com/.

Structuring a Set

A set is modular didactical unit comprising one or more learning goals. Each set can be structured independently from the others. There will be references between them and they will probably be based on each other, but they should be designed and organized as well-structured software modules: loosely coupled with high internal cohesion.

You can use the same four questions that you used for the golden thread of your training or for a LU to decide how a set should be set up, just on a smaller scale:

1. Why is this topic relevant for me?
2. What is to learn in this topic?
3. How can it be applied?
4. What else is there that goes beyond the scope that we have?

If you are going to teach more than one topic in a set, just think about those four questions (or the 4Cs) for each of the topics.

Structuring a Multi-Day-Training

It is usually helpful to structure the training days available into sessions of 45 to 90 minutes. A break is

necessary at the latest after this period to give students the opportunity to absorb and digest the recently delivered content.

A training day can thus be split easily as follows:

Sets of 60 Minutes

Arrival and setup	8.30 - 9.00
Set 1	9.00 - 10.00
Break	10.00 - 10.10
Set 2	10.10 - 11.10
Break	11.10 - 11.20
Set 3	11.20 - 12.20
Lunch	12.20 - 13.20
Set 4	13.20 - 14.20
Break	14.20 - 14.30
Set 5	14.30 - 15.30
Break	15.30 - 15.40
Set 6	15.40 - 16.40
Wrap-up and close	16.40 - 17.00

Sets of 90 Minutes

Arrival and setup	8.30 - 9.00
Set 1	9.00 - 10.30
Break	10.30 - 10.45
Set 2	10.45 - 12.15
Lunch	12.15 - 13.15
Set 3	13.15 - 14.45
Break	14.45 - 15.00
Set 4	15.00 - 16.30
Wrap-up and close	16.30 - 17.00

These are just ideas that can be adjusted to your or your students' preference or as the situation demands. Some trainers may prefer to provide longer breaks and extend their training schedule.

It is usually not a good idea to have more than six hours of learning in a day, as students may become overwhelmed and struggle to properly process the input any more.

Previous Knowledge Regarding the Contents

Learners should have finished LU 3 and know about didactics and training methods.

Preparation

Time and Activities for Trainer Preparation

Setting up a course structure that works usually takes time and needs to be refined a few times based on experiences from trainings. It is also never finished, as every given instance of a class gives you new insights and ideas on how to improve the training experience for your students.

Time and Activities for Student Preparation

Students in this training are trainer candidates and should be familiar with the topics of the course in order to understand them from the meta level perspective needed to teach it. This usually means they need theoretical knowledge and practical expertise in the topics covered by the course they are about to teach, which they might want to refresh by skim-reading seminal works you suggest. Sometimes it is helpful to prepare with some of the teaching and didactics theory mentioned in the reference material above.

Time for Activity

Trainer candidates should discuss set lengths, different training formats and different customer contexts that need adaptations, therefore some time for these discussions should be available.

LU05 - Designing and Evaluating Example Scenarios and Exercises

Duration: 180-240 min	Practice time: 30-60% of duration

Topic

Creating or selecting, adapting, and evaluating example scenarios and exercises so that they fit the target group and training goals.

Purpose

Enable trainers to provide exercises and a consistent example scenario throughout the course which fits the audience, connects to their previous knowledge, and delivers the learning goals of the FL curriculum. Enable trainers to evaluate the quality of example scenarios and exercises created or chosen by them. Creating a link between theory and practical application facilitates the engagement of learners, improves practical problem solving skills, and ensures immediate feedback on learning content.

Learning Objectives

LG 5-1: Provide and present relevant example scenarios

T3 participants (T3P) are able to create or select relevant example scenarios that help their students to understand the underlying concepts of software architecture and can present those to their students. They can break down an example scenario into single exercises and connect those to the different topics of the training.

LG 5-2: Adapt example scenarios to participants and the curriculum

T3P can understand and describe the needs of their audience and from this understanding derive audience-specific requirements on the example scenario(s) they are going to present. To do so, they should be able to describe and apply the necessary steps for creating or adapting scenarios which aligns with their target group and a specific set of learning objectives of the FL curriculum. They can adapt exercises and scenarios to fit the audience (e.g. level of difficulty, previous experience, etc.), for instance by adding tasks on the fly that increase the level of difficulty or by aligning the scenario with the professional background of individual learners.

LG 5-3: Evaluate example scenarios

T3P should be able to explain the importance of having a consistent and high-quality example scenario and also be able to verify or evaluate that their example meets the required quality standard. They also should be able to explain the consequences of mentioning unrelated example scenarios, can identify showstoppers that keep students from being successful with the exercise, and know how to overcome them (e.g. by providing specific detailed help).

LG 5-4: Know sources for example scenarios

T3P should be able to name possible sources for example scenarios (e.g. own experience or arc42 examples).

LG 5-5: Provide stand-alone exercises

T3P should be able to select, design and/or adapt exercises that

- support selected topics and LGs,

- adapt the didactic method,
- activates students' participations
- facilitates understanding of relation to CPSA-F important LGs and delineate the expected outcome
- are covered at right context and within the timeline

Takeaways for Students

- Create relevant scenarios that support Foundation Level learning goals
- Develop skills to adapt scenarios to diverse audience needs
- Learn to evaluate scenario quality and effectiveness
- Break down complex scenarios into practical exercises
- Utilize various sources for scenario development, including personal experience
- Cultivate a mindset for continuous scenario improvement

Important

This Learning Unit is specifically designed for Train-the-Trainer participants (T3P) and is not part of the Foundation Level curriculum. Key points for T3 trainers to emphasize include:

- Leveraging existing knowledge and past experience to develop effective example scenarios
- The value of using real-world examples from personal project experience
- The importance of being able to provide detailed explanations and context when students ask questions
- How to adapt and extend scenarios based on participants' inquiries
- The balance between using pre-prepared scenarios and drawing from personal experience
- Techniques for making abstract concepts concrete through relatable examples
- The importance of scenario flexibility to accommodate different learning styles and backgrounds

Remember, the ability to draw from personal experience enhances the trainer's credibility and helps participants connect theoretical concepts to practical applications. This approach also allows for more dynamic and engaging discussions during the training session.

Discussion Points

- **Target Audience Analysis**:
  - What are the typical industries your training participants come from?
  - How do you assess and address the diverse backgrounds in your audience?
- **Expectations Management**:
  - What are reasonable expectations for participants' prior knowledge?
  - How do you balance between novice and experienced participants?
- **Scenario Relevance**:
  - How can you create scenarios that resonate across different industries?

- What makes a scenario universally applicable yet specific enough to be useful?

- **Cultural and Geographical Considerations**:
  - How might scenarios need to be adapted for different cultural contexts?
  - Are there region-specific examples that could enhance understanding (e.g., KakaoTalk in South Korea, Aarogya Setu in India)?
- **Balancing Theory and Practice**:
  - How do you ensure scenarios illustrate theoretical concepts while remaining practical?
  - What's the right mix of abstract principles and concrete examples?
- **Scenario Complexity**:
  - How do you determine the appropriate level of complexity for a scenario?
  - What strategies can be used to scale scenario difficulty up or down as needed?
- **Participant Engagement**:
  - What techniques have you found effective for keeping participants engaged with scenarios?
  - How do you encourage participants to relate scenarios to their own experiences?

Don'ts

When providing T3P with your example scenarios, avoid untested ideas where you, as a trainer, don't know how they turn out in practice or where common pitfalls are.

Reference Material and Resources for Learners and Trainers

Reference Material and Resources for Learners and Trainers

Architectural Katas by Ted Neward [Neward+] or Mark Richards and Neal Ford [Richards+]

A collection of architectural exercises that provides trainers with short, focused challenges that simulate real-world software architecture scenarios. These katas are particularly valuable for giving participants hands-on practice with architectural decision-making.

arc42 Website [arc42]

Contains links to several online examples of software architecture documentation.

arc42 by Example Books [Starke+2023], [Hruschka+2021]

Provide detailed descriptions of different IT systems and their architectures.

The Architecture of Open Source Applications [AOSA]

A collection of detailed examples showing how various open source applications are structured.

Didactics and Transfer

Method Hints

- Start with the participants idea for example scenario.
- How would they proceed? Any past experience of training that comes to mind and is helpful?
- Do they know any references that they might want to put to use?

Example scenarios should demonstrate practical applications of CPSA-F topics, including but not limited to:

- Stakeholders
- Risks
- Influencing factors
- Pattern choice
- Design constraints
- Architecture methods (e.g. developing certain views)

Scenarios should connect to Foundation Level Learning Goals but need not cover all topics exhaustively.

Consider that scenario complexity presents a trade-off:

- Simple scenarios: Quick to present, but may lack depth.
- Domain-specific scenarios: Leverage existing knowledge and save time for those familiar with the domain, but may alienate others.

Previous Knowledge Regarding the Contents

Learners should be familiar with the CPSA-F curriculum.

Sustaining Knowledge Transfer - Short Term

Sample example scenario used during this learning unit will be shared with participants as a PDF.

Sustaining Knowledge Transfer - Long Term

Participants must create their own example scenario. Present, explain their specific exercises, How do I later on evaluate MY scenario. How do I find out if it helped my students

Preparation

Time and Activities for Trainer Preparation

Be ready with the example scenario which will be used as a sample scenario while teaching this LU. Should be prepared prior to the training commencement day.

Time for Activity

30 minutes in collaboration with other participants. Any pending work can be given as at home exercise and discussed next day for 30 mins (Any 1/2).

Physical Materials Required for Activities

If in-person training, Few plain white papers and pen/pencil.

Virtual Material/Infrastructure

If online, shared whiteboard.

Prior Knowledge of Participants in the Use of Materials and Infrastructure

Hands-on experience using the whiteboard.

Success Factors and Risks

General Risks

- Acceptance challenge – Considering participants years of experience and designation.
- Sunken costs. People cannot let go of their scenario even if it's not a good one because they invested a lot of time

Possible Barriers to Knowledge Transfer

People might know a **lot** more about the domain of the example scenario.

Success factors

Out of 6, at least 1-2 participants come up with quick example scenarios of their own which passes 70% of the example scenario validation checklist.

LU06 - Logistics and Operational Aspects of Trainings

Duration: 0-60 min	Practice time: n/a

Topic

This section discusses important aspects related to training organization and adherence to standards set by iSAQB® (International Software Architecture Qualification Board). It covers topics such as accreditation processes, quality control, legal frameworks, licensing, rules, codes of conduct, fees, venue selection, and examination procedures. Additionally, it addresses aspects like material usage, customer registration, reporting requirements, self-promotion, and communication with iSAQB®.

Purpose

Trainers need to be aware of the operational concept of iSAQB® trainings and the ensuing obligations to trainers and training providers. This is to ensure trainings hold up to theses standards worldwide. Some trainers will be training providers as well and should know the rules for imparting trainings.

Learning Objectives

LG 6-1: Training management standards

T3P can describe how training providers organize trainings. They can check if the organization of trainings adhere to iSAQB®s best practices and standards, is within the legal framework given by iSAQB®, and is executed with ethical conduct.

They should be able to apply quality control of the standards if they work as a consultant to the training provider or as a training provider themselves. This includes understanding of the accreditation process for trainers and training providers as well as the rules that are set by iSAQB® (e.g. training mode, group size, code of conduct, fees, reporting).

LG 6-2: Effective use of Intellectual Property

T3P can describe the effective use of licensed course material, which involves understanding its value, the contract with iSAQB®, payment conditions (for new material and for updates), limitations of amendments, distribution limitations. They should be aware of unauthorized use or possible copyright infringements.

T3P can describe the extent to which training material can be customized and adapted.

LG 6-3: Effective communication with iSAQB®

T3P can explain the iSAQB® communication process for any query related to training and training material as well as for overall engagement as a training provider and trainer. T3P can explain about the process to communicate with iSAQB® GmbH for few facts which includes register as TP on iSAQB® site, annual declaration of trainings, announcing the training dates and getting it listed on iSAQB® official site, procuring the new slide deck, contact point from iSAQB® to inquire for the updates of curriculum and foundation level course material, iSAQB® reporting as TP & renewal requirements, understanding about Exam certifying partner and their role, promotions and available support.

LG 6-4: Training venue organization

T3P can understand the uniform approach for the training venue selection, management & customize it according to their needs. T3P gets aware of the various aspects of in-person training requirements, including: Group size limitations – understanding optimal number of participants for effective

engagement, seating arrangements, stationary arrangement, logistics (if any like audio-visual equipment's, documents, mock exam & course material print outs etc), catering arrangements and common pitfalls/challenges faced during training events.

LG 6-5: Exam organization

T3P can understand and utilize the standard approach to collaborate with Exam certifying partners. T3P can develop guidelines and design a short session for the participants about "How to Prepare, Register and Appear for the Certification Exam". Thus, will ensure that participants are well-informed and confident throughout the training and certification process.

Takeaways for Students

1. Uphold iSAQB® standards and professional conduct:
    - Complete required accreditation processes
    - Adhere to rules on training mode, group size, and ethical conduct
    - Apply rigorous quality control measures
    - Maintain clear communication with iSAQB®
    - Submit required reports and declarations
    - Stay informed about curriculum updates
    - Promote trainings responsibly
2. Manage course materials responsibly:
    - Use licensed content as per iSAQB® contracts
    - Customize within allowed limits
    - Avoid copyright infringements
3. Organize and deliver trainings effectively:
    - Select appropriate venues considering group size and logistics
    - Implement necessary arrangements for in-person trainings
    - Communicate clearly with participants before and after training
    - Ensure effective engagement during sessions
4. Facilitate examination processes:
    - Collaborate with Exam Certifying Partners
    - Prepare participants for certification exams

Reference Material and Resources for Learners and Trainers

Training providers and trainers must follow the iSAQB® Code of Conduct [iSAQB-CoC] which provides guidelines for professional behavior, ethical standards, and responsibilities in delivering iSAQB® trainings.

References

A

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