Course: Software Requirements Engineering

Week 5: Elicitation Techniques (Part 1)

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- Introduction
- Overview of elicitation techniques & their role
- Interview technique
- Workshop technique
- Observation technique
- Brainstorming and facilitation as supporting techniques

Figure 1. *The software requirements*
Note. Image generated using Sora by OpenAI (2026).

Learning Outcomes

After completing this lesson, you will be able to:

- Explain key elicitation techniques: Interviews, Workshops, Observation, Brainstorming, Facilitation
- Differentiate when and where each technique is applied
- Execute basic steps for interviews and workshops
- Identify advantages and challenges of each technique
- Apply techniques to simple real-world scenarios.

Introduction … (1/2)

What is Elicitation Technique?

- ✓ Methods for gathering requirements
- ✓ Support stakeholder communication
- ✓ Used during elicitation stages
- ✓ Help uncover explicit and implicit needs
- ✓ Improve requirement quality

Introduction … (2/2)

- ✓ Many elicitation techniques can be employed on software projects (Beatty, 2013)
  - ✓ No single elicitation technique fits all projects
  - ✓ Different types of information require different approaches
  - ✓ Stakeholders have varied communication preferences
  - ✓ Some users can clearly explain their workflows
  - ✓ Others require observation to fully understand their tasks

Why Elicitation Techniques Matter?

- Elicitation techniques play a critical role in ensuring the success of software projects (Chemuturi, 2013).
  - Reduce ambiguity in requirements
  - Enhance stakeholder engagement
  - Improve requirement completeness
  - Minimize project risks
  - Support better decision-making

Elicitation Techniques

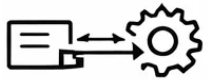
Interviews

Workshops

Brainstorming

Observation

Interface Analysis



System

User

Focus Group

Prototyping

Questionnaires (Surveys)

Document Analysis

Classification of Techniques

- ✓ Individual techniques
- ✓ Group techniques
- ✓ Observational techniques
- ✓ Creative techniques
- ✓ Facilitation-based techniques

Facilitated Activities	Independent Activities
Interviews, prototyping	Document analysis
Workshops, focus group	System interface analysis
Observations, brainstorming	User interface analysis
Questionnaires	

Elicitation Techniques – Part I

Interviews

Workshops

Observation

Brainstorming

Facilitation Based

Interview

- Interviews are one of the most widely used elicitation techniques in software requirements engineering.

- ✓ One-on-one communication
- ✓ Structured or unstructured
- ✓ Common elicitation method
- ✓ Deep understanding of needs
- ✓ Flexible approach

Interview – Types

Structured interviews

Unstructured interviews

Semi-structured interviews

Remote vs face-to-face

Formal vs informal

Interview – Process (Execution)

- ✓ Interview process involves several structured steps

1. Preparation stage
2. Question design
3. Conducting interview
4. Recording responses
5. Follow-up actions

Interview – Advantages

- ☑ Detailed insights
- ☑ Direct communication
- ☑ Flexible questioning
- ☑ Clarification possible
- ☑ Builds trust

Interview – Challenges

Major Challenges include:

- ≠ Time-consuming
- ≠ Bias risk
- ≠ Miscommunication
- ≠ Limited scope
- ≠ Requires skill

Workshop

What is Workshop technique?

- ✓ Group-based sessions
- ✓ Multiple stakeholders involved
- ✓ Collaborative environment
- ✓ Structured discussions
- ✓ Fast requirement gathering

Workshop – Process

- ✓ Workshop process involves several structured steps

1. Define objectives
2. Select participants
3. Prepare agenda
4. Conduct session
5. Document outcomes

Workshop – Role of Facilitator

Facilitator plays a central role

- Guide discussion
- Manage conflicts
- Ensure participation
- Keep focus
- Document decisions

Workshop – Advantages

- Workshops offer several advantages in requirements elicitation
  - ✓ Faster elicitation
  - ✓ Shared understanding
  - ✓ Conflict resolution
  - ✓ Collaborative decisions
  - ✓ Efficient

Workshop – Challenges

Major Challenges include:

- ≠ Scheduling difficulty
- ≠ Dominant participants
- ≠ Conflicts
- ≠ Requires facilitation skills
- ≠ Preparation effort

Observation

- Observation is an elicitation technique where requirements engineers study users in their real working environment.
  - Watching users
  - Real-world context
  - **Passive** or **active**
  - Useful for implicit knowledge
  - Complements interviews

Observation – Types

Types of observation:-

1. Passive observation
2. Active observation
3. Participant observation
4. Non-participant observation
5. Contextual inquiry

Observation – Process

- ✓ Observation process involves several structured steps

1. Identify users
2. Define scope
3. Observe tasks
4. Record findings
5. Analyze behavior

Observation – Pros and Challenges

Pros:-

- ☑ Real insights
- ☑ Uncovers hidden needs

Challenges:-

- ≠ Time-consuming
- ≠ Privacy concerns
- ≠ Interpretation issues

Brainstorming

- ✓ Idea generation technique
- ✓ Group activity
- ✓ Encourages creativity
- ✓ No criticism rule
- ✓ Quick idea collection

Brainstorming – Process

- ✓ Brainstorming process involves several structured steps

1. Define problem
2. Generate ideas
3. Record ideas
4. Evaluate later
5. Prioritize outcomes

Brainstorming – Rules

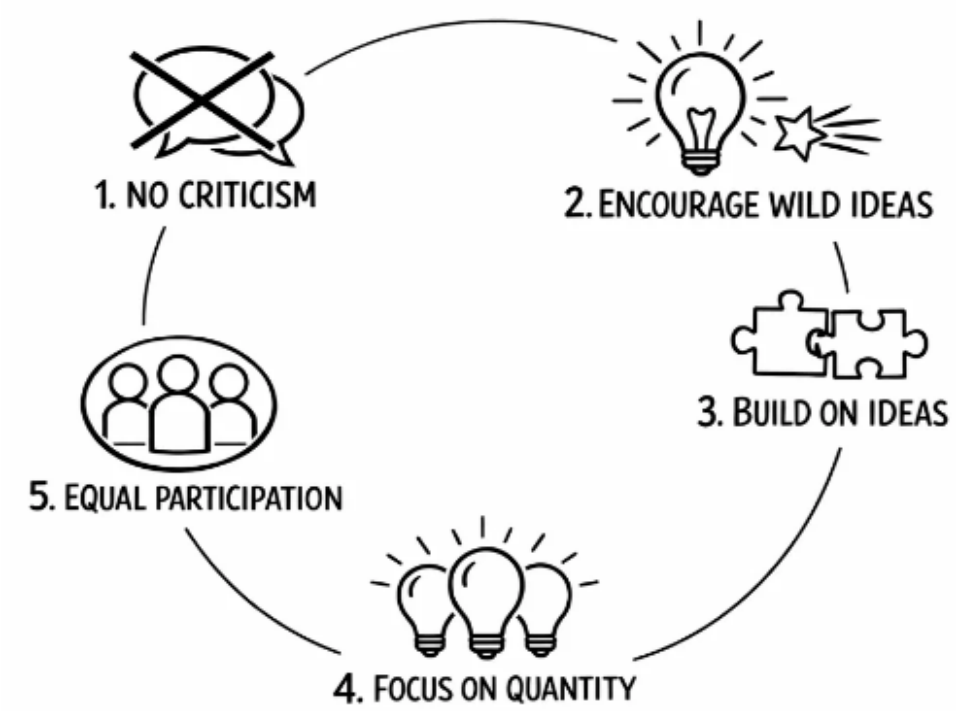


Figure 2. *The rules of brainstorming*
Note. Image generated using Sora by OpenAI (2026).

Brainstorming – Advantages

Brainstorming provides several key advantages in requirements elicitation.

- ✓ Creative solutions
- ✓ Team engagement
- ✓ Fast idea generation
- ✓ Flexible
- ✓ Encourages innovation

Brainstorming – Challenges

Brainstorming has several challenges

- ≠ Lack of focus
- ≠ Dominant voices
- ≠ Irrelevant ideas
- ≠ Needs facilitation
- ≠ Requires filtering

What is Facilitation?

Facilitation is the process of guiding and managing group discussions during requirements elicitation activities.

- ✓Neutral role
- ✓Improves communication
- ✓Ensures productivity

Role of Facilitator

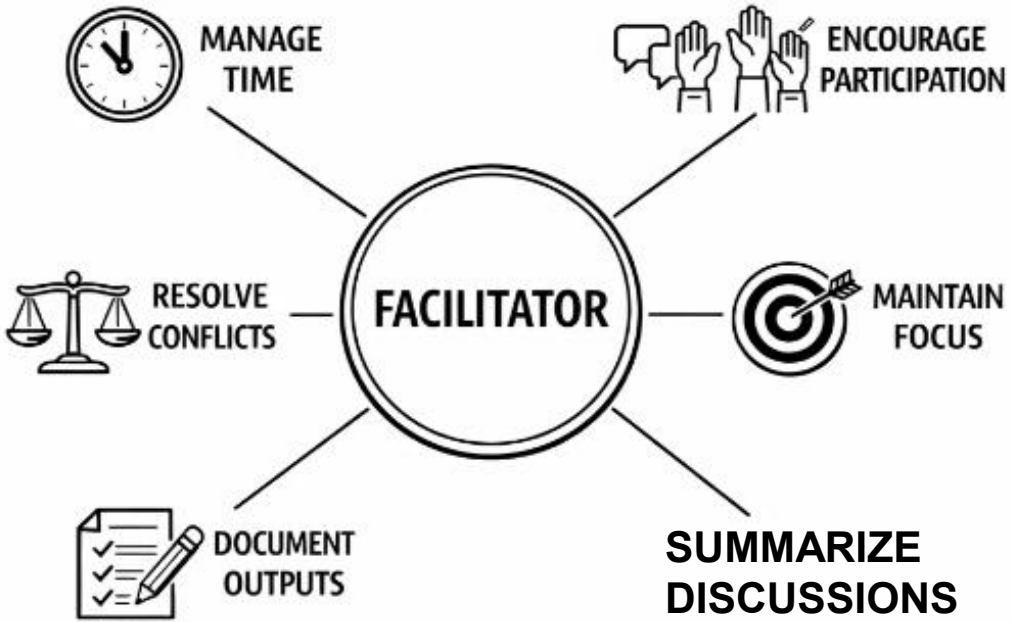


Figure 3. *The role of facilitator in requirement elicitation*
Note. Image generated using Sora by OpenAI (2026).

Facilitation – Techniques

- ☑ **Active listening**
  - ➢ fully focusing on and understanding what others are saying.
- ☑ **Questioning**
  - ➢ asking clear questions to explore ideas and gather information.
- ☑ **Conflict resolution**
  - ➢ managing disagreements to reach a positive outcome.
- ☑ **Summarizing**
  - ➢ briefly restating key points to ensure clarity and agreement.
- ☑ **Decision support**
  - ➢ helping the group evaluate options and choose the best solution

Facilitation – Importance in Elicitation

Facilitation plays a crucial role in all elicitation techniques.

- ☑ Improves workshops
- ☑ Enhances interviews
- ☑ Supports brainstorming
- ☑ Aligns stakeholders
- ☑ Ensures clarity

Activity – Online Learning System

Scenario: A university plans to develop an **Online Learning System (OLS)** to support digital education. The system should allow:

- Students to access courses, materials, and assignments
- Instructors to upload content, manage classes, and grade students
- Administrators to manage users and monitor system usage

Current challenges:

- Learning materials are shared manually (email/Telegram)
- No centralized system for assignments and grading
- Poor communication between students and instructors
- No analytics for student performance

Stakeholders:

- Students, Instructors, University administration, IT support team

List the best elicitation technique.

Answer: a combination multiple techniques including interview, observation, brainstorming, etc.

Summary

- ✓ Core techniques: Interviews, Workshops, Observation, Brainstorming, Facilitation
- ✓ Each technique serves different elicitation needs and contexts
- ✓ Execution quality determines effectiveness of outcomes
- ✓ Facilitation enhances all techniques and stakeholder collaboration
- ✓ Combining techniques improves completeness and accuracy of requirements

References

1. Beatty, K. W. (2013). Software Requirements (3rd ed.). Washington: Microsoft Press.
2. Chemuturi, M. (2013). Requirements Engineering and Management for Software Development Projects. New York Heidelberg Dordrecht London: Springer. doi:10.1007/978-1-4614-5377-2

Thank You!