



Baobab Simulations Handbook.

Simulation-Based Case Study Development and Learning Using Bloom's Taxonomy: A Guide for Instructors and Students.

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Table of Contents

1. Introduction.....	4
2. Purpose of the Handbook.....	4
3. Understanding Bloom’s Taxonomy	4
4. Part I. Guide for Instructors developing Case Studies.....	5
4.1 Designing Case Studies for Simulation.....	5
4.2 Stage 1: Remember (Knowledge Recall).....	5
4.2.i Definition.....	5
4.2.ii Key Cognitive Verbs in setting “remember” level questions	5
4.2.iii Teaching Strategies	5
4.2.iv Example Case Questions	6
4.3 Stage 2: Understand (Conceptual Comprehension)	6
4.3.i Definition.....	6
4.3.ii Key Cognitive Verbs in setting “remember” level questions	6
4.3.iii Teaching Strategies	6
4.3.iv Example Case Questions	6
4.4 Stage 3: Analyse (Structural Decomposition)	6
4.4.i Definition.....	7
4.4.ii Key Cognitive Verbs in setting “analysis” level questions	7
4.4.iii Example Case Questions.....	7
4.5 Stage 4: Apply (Knowledge Transfer).....	7
4.5.i Definition.....	7
4.5.ii Key Cognitive Verbs in setting “apply” level questions	7
4.5.iii Teaching Strategies	8
4.5.iv Example Case Questions	7
4.6 Stage 5: Evaluate (Critical Judgement).....	8
4.6.i Definition.....	8
4.6.ii Key Cognitive Verbs in setting “evaluate” level questions	8
4.6.iii Example Case Questions.....	8
4.7 Stage 6: Create (Knowledge Generation).....	8
4.7.i Definition.....	8
4.7.ii Key Cognitive Verbs in setting “create” level questions.....	8
4.7.iii Example Case Questions.....	8
5. Best Practices for Simulation Case Teaching.....	8
6. Case Study Development Template for Instructors.....	9
6.i Case title.....	9
6.ii Short description of the case, about 100 words.....	9
6.iii Keywords	9
6.iv Subject area tags.....	9
6.v Case briefing (details) must include:.....	9
a. Problem Statement.....	9
b. Learning Objectives.....	9
c. Data and Evidence	10
d. Conclusion.....	10
7. Part II. Guide for Students answering Case Studies.....	10
7.1 Step-by-Step Approach to Case Analysis.....	10
7.1.i Step 1. Remember: Identify Relevant Concepts	10
7.1.ii Questions to ask yourself:	10
7.2 Step 2. Understand: Demonstrate Comprehension of the Theories and Concepts.....	10
7.2.i Focus on:	10
7.3 Step 3. Analyse: Break the case into key elements	10
7.3.i For example:.....	10
7.4 Step 4. Apply: Transfer Knowledge	11
7.4.i Examples include:	11
7.5 Step 5. Evaluate: Assess the values of alternatives	11
7.5.i Assess possible solutions based on:.....	11

7.6 Step 6. Create: Imagine or develop an original solution or strategy based on the case. 11
7.6.i Strong case responses include: 11
8. References 11
9. Appendix 12

Part I. Introduction and Roadmap

1. Introduction

This is a Handbook on Baobab Simulation platform containing sections on instructor and student tools, tables, and practical templates. It is grounded in Bloom’s Taxonomy developed by Bloom (1956) and revised by Anderson and Krathwohl (2001), as a pedagogical framework to structure knowledge development and learning from basic recall to advanced creative problem-solving.

1.1 Purpose of the Handbook

This handbook provides guidance for Instructors developing case studies for simulation-based learning and students answering case study questions in a simulation environment.

A Simulation learning environment requires students to engage with complex and dynamic situations. When case studies are structured using Bloom’s Taxonomy, they help students progressively develop analytical thinking, applied reasoning, critical judgement, and creative writing.

1.2 Understanding Bloom’s Taxonomy

Bloom’s Taxonomy organises cognitive learning into six hierarchical levels, where each stage represents increasing cognitive complexity.

Level	Cognitive Skill	Learning Purpose	Typical Student Action
C1	Remember	Recall knowledge	Define, list, identify
C2	Understand	Explain concepts	Describe, summarize
C3	Analyse	Break information into parts	Compare, classify
C4	Apply	Use knowledge in new situations	Demonstrate, implement
C5	Evaluate	Make informed judgments	Critique, justify
C6	Create	Produce new ideas or models	Design, develop

Source: Adapted from Bloom (1956) and Anderson & Krathwohl (2001)

Higher levels depend on mastery of lower levels. Effective knowledge development therefore guides students progressively through these levels.

Part II. Guide for Instructors developing Case Studies

2. Instructor Guide

2.1 Designing Case Studies for Simulation

When designing case studies, instructors should align three elements:

- Learning objectives
- Case study tasks
- Assessment questions

This alignment ensures that learning outcomes match students' cognitive development. This process is referred to as constructive alignment in curriculum design.

2.2 Stage 1: Remember (Knowledge Recall)

2.2.i Definition

The Remember stage requires students to retrieve previously learned information from memory. Students must be able to:

- Recognise concepts.
- Recall definitions.
- Reproduce knowledge from lectures or readings.

2.2.ii Key Cognitive Verbs in setting “remember” level questions

- Define
- List
- Name
- Identify
- State
- Label
- Match
- Outline

3 Teaching Strategies

To support recall, instructors should incorporate memory cues in case study development such as:

- Examples.
- Context.
- Time
- Analogies.
- Diagrammes.
- Conceptual summaries.

These tools help students encode and recall (retrieve) information more effectively.

3.1 Example Case Questions

- Define the concept that is central to the case.
- Identify the key stakeholders.
- List the main variables influencing the situation.

Stage 2: Understand (Conceptual Comprehension)

i Definition

Understanding requires students to interpret and explain ideas in their own words. Students demonstrate understanding when they can:

- Summarise a concept.
- Explain relationships.
- Connect theory to real-world situations using analogies.

ii Key Cognitive Verbs in setting “Understand” level questions

- Explain
- Describe
- Interpret
- Contrast
- Distinguish
- Summarise
- Classify
- Compare
- Give examples

iii Teaching Strategies

To facilitate understanding, instructors should provide:

- relatable examples
- real-world analogies
- visual models
- storytelling narratives

These techniques help learners integrate new knowledge with prior experiences.

iv Example Case Questions

- Explain why the problem in the case occurred.
- Summarise the main argument presented in the scenario.
- Critically evaluate the relationship between the main variables.

Stage 3: Analyse (Structural Decomposition)

4.4.i Definition

Analysis involves breaking down complex information into smaller components and examining their relationships. Students demonstrate analytical competences when they can identify:

- Variables and their components.
- Causes and effects.
- Structural relationships.
- Patterns within the case.

4.4.ii Key Cognitive Verbs in setting “analysis” level questions

- categorize
- compare
- contrast
- differentiate
- classify
- examine

4.4.iii Example Case Questions

- Analyse the factors contributing to the outcome.
- Compare the strategies used by different actors.
- Differentiate between short-term and long-term consequences.

Stage 4: Apply (Knowledge Transfer)

4.5.i Definition

Application requires students to use theoretical knowledge to explain or solve practical problems. At this level students transfer learning from the classroom to real-world contexts.

4.5.ii Key Cognitive Verbs in setting “apply” level questions

- apply
- demonstrate
- illustrate
- implement
- organise
- employ

4.5.iii Example Case Questions

- Apply the theoretical model to explain the situation.
- Demonstrate how the framework could improve the outcome.
- Illustrate the implications of the strategy described.

Stage 5: Evaluate (Critical Judgement)

4.6.i Definition

Evaluation requires students to assess the value or effectiveness of ideas using evidence and reasoning. Students must defend their conclusions logically.

4.6.ii Key Cognitive Verbs in setting “evaluate” level questions

- assess
- critique
- justify
- recommend
- defend
- prioritise

4.6.iii Example Case Questions

- Evaluate the effectiveness of the decision taken.
- Critique the policy implemented in the case.
- Recommend the most appropriate strategy and justify your answer.

Stage 6: Create (Knowledge Generation)

4.7.i Definition

Creation represents the highest cognitive level, where students synthesise knowledge to produce original ideas or solutions. Students move from logical assessment of the value of ideas to finding new insights.

4.7.ii Key Cognitive Verbs in setting “create” level questions

- design
- construct
- formulate
- generate
- produce
- develop

4.7.iii Example Case Questions

- Design a policy solution to address the problem.
- Develop a new strategy for the organisation.
- Construct a model explaining the dynamics observed in the case.

5. Best Practices for Simulation Case Teaching

Effective simulation case studies should:

- reflect realistic scenarios
- require decision-making under uncertainty
- encourage collaboration and discussion
- integrate theory with practice

Well-designed cases guide learners through progressively deeper levels of cognition

6. Case Study Development Template for Instructors

Instructors can use the following template when developing case studies in Baobab.

6.i Case title

Short descriptive title.

6.ii Short description of the case, about 100 words

It must contain, for example, context, scope, key actors, theories and concepts involved.

6.iii Keywords

Tag the case with associated keywords to allow for search.

e.g. Ghana, international market, brewery, marketing plan, branding

6.iv Subject area tags

Tag the case with subject disciplines that the case falls under.

e.g. Marketing Management, Finance, Human Resource, Agricultural Science etc

6.v Case briefing itself (details) must include:

a. Problem Statement

The central issue or challenge facing decision-makers.

b. Learning Objectives

List between 3 to 5 learning objectives, and they must align with the Bloom's taxonomy (see section 3, Understanding Bloom's Taxonomy), as explained above.

Example of learning objectives could be *After completing the case, learners should be able to:*

- Recall key theoretical concepts in Marketing.
- Analyse the factors that affect country branding.
- Evaluate policy alternatives in women development.
- Develop a strategic recommendation for international marketing entry.

Case Questions

Bloom Level	Example Question
Remember	Identify the main stakeholders.
Understand	Explain the problem presented.
Analyse	Analyse the factors causing the issue.
Apply	Apply theory to interpret the situation.
Evaluate	Critique the decision taken.
Create	Propose a new solution or strategy.

c. Types of data and evidence to be embedded in a case study

Relevant statistics, narratives, events, trends.

d. Conclusion

Summarise the case to recap the understanding of the student on the case.

Part III. Guide for Students answering Case Studies

7.1 Step-by-Step Approach to Case Analysis

Students should approach case studies using the cognitive progression of Bloom's Taxonomy.

7.1.i Step 1. Remember: Identify Relevant Concepts

Start by recalling the main and sub theories, models, or concepts relevant to the case. There will be cues in the case text to identify these theories, models and concepts.

7.1.ii Questions to ask yourself when reading a case study text:

- What are the key concepts, theories and models in this course?
- What topic(s) is this case study talking about?
- Which theories, concepts or models are evident in this case study?
- Which of these theories, concepts or models are considered as the main (level.1), anchor framework?
- Which ones are the sub theories, concepts or models that expands on the first level, to be considered as level.2, analytical domain
- Which of these theories, concepts and models are also considered as level.3, diagnostic tools, that drills down and 'actionalise' the solution.
- Who are the key people, organizations, or characters in this case
- What are the key dates, locations, or contextual facts mentioned

7.2 Step 2. Understand: Demonstrate Comprehension of the Theories and Concepts

Once you have identified the theories and concepts in the case study text, you must explain them by using your own words to demonstrate understanding. In your explanation:

7.2.i Focus on:

- meaning
- relationships between their component parts
- give real-world and relevant examples

7.3 Step 3. Analyse: Break the case into key elements

By breaking the case into key elements, it means

7.3.i For example:

- who are the stakeholders
- what are the causes
- what are the consequences
- spot the trends.

Mapping these relationships often helps in grounding your understanding to the level of expertise.

7.4 Step 4. Apply: Transfer Knowledge

Use the identified theories, concepts and models to explain your solution or answer. This means using the academic jargons in your text, not just plain English. For example, in marketing ‘to separate’ is ‘to segment.’ The same phrase could be said in plain English as ‘to separate’ or ‘to aggregate.’ Hence, “I will recommend the theory of segmentation to be used in international marketing” not “I will recommend separation to be used” or “aggregation to be used.”

7.4.i Examples include:

- economic models
- policy analysis frameworks
- management theories

7.5 Step 5. Evaluation: Assess the values of alternatives

Again, in answering a case study question you could indicate your knowledge in the area by identifying at least three (3) other related theories, concepts and models that could also be applied to the case and assess their “value” in terms of context – relevance, scope, timing etc – and choose or recommend the best fit amongst them.

7.5.i Assess possible solutions based on:

- effectiveness
- feasibility
- risks
- ethical implications

Support argument with evidence.

7.6 Step 6. Create: Imagine or develop an original solution or strategy based on the case.

7.6.i Strong case responses include:

- clear recommendations
- theoretical justification
- expected outcomes

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Appendix

Template for Baobab Case Study Setting and Answering based on the Handbook.

1. Overview of the Baobab Simulation Model

The Baobab Simulation Model is designed to guide students in responding systematically to strategic case studies. Each case is structured around three hierarchical and interrelated analytical levels, each requiring a distinct cognitive task: identification and selection of theories, concepts and models; decomposition of these theories, concepts and models, and diagnostic, application tools of these theories, concepts and models.

Collectively, these three levels assess students' capacity for strategic, analytical, and diagnostic thinking. In a simulation case study text, a question is posed along these three levels: Anchor Framework (Level 1), Analytical Domain (Level 2), and Diagnostic Tools (Level 3).

2. Definitions

2.1 Level 1: Anchor Framework (AF)

Anchor Frameworks are high-level organising structure concepts and models that provide conceptual foundation for analysing a case study and formulating a coherent strategic response. They function as the structural backbone of the analysis.

Examples of Anchor Frameworks in marketing include:

- The SOSTAC framework in Marketing (situation analysis)
- STP framework in Marketing

In a Baobab Marketing Simulation Case Study, the Level 1 task requires students to identify the most appropriate Anchor framework(s) and apply them correctly as the outline for a strategic marketing plan. For instance, when applying SOSTAC, the plan may be organised into situation analysis, objectives, strategy, tactics, action and control.

2.2 Level 2: Analytical Domain (AD)

At Level 2, students identify the Analytical Domain (AD) that constitutes the component elements of the selected anchor framework, in this case the SOSTAC above.

Analytical Domains represent the key dimensions or areas of analysis embedded within the overarching framework. For example, Macro and Micro environmental factors constitute Analytical Domains within situation analysis stage of the SOSTAC framework.

2.3 Level 3: Diagnostic Tools (DT)

Diagnostic Tools (DT) represents the specific analytical instruments used to evaluate the analytical domain identified at Level 2. These tools enable the systematic diagnosis of strategic conditions, issues, and opportunities within the case.

For example:

- PEST analysis may be used to examine macro-environmental factors, and
- SWOT analysis may be used to assess micro or organisational factors.

3. Purpose of the three Hierarchy Model for answering a case study text.

The three-level hierarchical structure reflects best-practice pedagogical approach to case-based learning. It is intended to evaluate a student's ability to:

- Identify the most appropriate strategic frameworks for analysing a case
- Decompose high-level frameworks into their core analytical components
- Demonstrate conceptual understanding
- Apply appropriate diagnostic tools to identify strategic issues and opportunities
- Recognise specific models and tools associated with each analytical domain
- Demonstrate how these tools can be used to generate actionable insights from the case