



# Guide to the ‘XV GAMES’

Anastássios Perdicoulis

Assistant Professor, ECT, UTAD (<http://www.tasso.utad.pt>)

Affiliate Researcher, CITTA, FEUP (<http://www.fe.up.pt/~tasso>)

## Abstract

The ‘XV GAMES’ are a training interface to Systems Planning. Players build competences of reasoning and argumentation in a variety of themes through the systems planning modelling language (SPML).

## 1 Introduction

‘XV’ stands for ‘extended vision’ (or ‘X-ray vision’): the games help the players to ‘see’ abstract entities before working with them — for instance, concepts such as objectives, action, and their relationships.

The games are modular regarding themes (presented below), perspectives (cause-and-effect or state-and-action), mode (planning or explanation), and interface (paper or software — the latter being currently in preparation).

Players are intended to be young and curious people, with an appreciation for efficiency. Professionals can get significant direct benefits by building key competences in reasoning and argumentation, expressed in a rigorous language.

‘XV GAMES’ are based on the Systems Planning work (Perdicoulis, 2010, 2011a,b), so they are provided as a community extension to applied research. Hence, the games are experimental in nature, so feedback from the players is welcome.

## 2 Overview

The games are played in groups (Table 1), following a sequence of four phases (Figure 1). For training purposes, the games can be also played ‘solo’, but in this case the player must go through a number of functions.

REFEREES	TEAM A	TEAM B
Judge 1	Player A1	Player B1
Moderator 1	Player A2	Player B2
Moderator 2	Player A3	Player B3

TABLE 1 There are two kinds of players: referees (as judges and moderators) and team members

The phases of the game are assigned a number of tasks, such as defining the teams, selecting the theme, the perspective, etc. (Figure 1). Hence, players must make their choices and perform their duties in relation to these tasks.

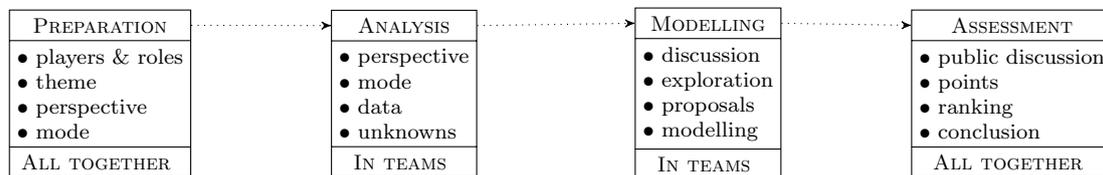


FIGURE 1 Phases and key tasks

### 3 Themes, Perspectives, and Modes

THEME	CATEGORY	PERSPECTIVE	MODE	DIAGRAM
Popular wisdom	Folk tales, fairytales, popular sayings, etc.	Cause-and-effect	Explanation	RBP/ DCD
Science	Natural sciences, medicine, etc.	Cause-and-effect or State-and-action	Explanation or Planning	RBP/ DCD/ CPD
Storytelling	From the newspapers, websites, theatrical plays, movies, etc.	State-and-action	Explanation	CPD
Planning	Urban planning, policy making, environmental planning, etc.	Cause-and-effect	Planning or Explanation	RBP/ DCD

TABLE 2 Suggested themes, perspectives, and modes for the ‘XV GAMES’

A number of suggested themes and categories are provided as a ‘starter pack’ (first and second columns of Table 2). These are likely to appeal to different kinds of players — for instance:

**ACTION ARCHITECTS OR STRATEGISTS** will analyse, understand, and design efficient action in a variety of contexts — for instance, business, community, or science;

**STORYTELLERS, JOURNALISTS, AND OTHER ‘ARGUMENT’ PROFESSIONALS** will analyse, understand and communicate the line of action or the development stages in a story — for instance, newspaper news, a movie, or the impact assessment of a development plan;

**CULTURAL DECIPHERERS, OR SOCIAL SCIENTISTS** will discover and communicate what ‘encoded’ expressions mean — for instance, proverbs, or some metaphoric words we use in erudite speech.

The perspective to the chosen theme must be then selected appropriately — for instance, whether the players are going to consider their theme as a matter of ‘cause-and-effect’, or as a ‘state-and-action’ (or process) — third column of Table 2.

Games can be played in two different modes: a ‘planning’ mode generally prepares solutions to problems, while an ‘explanation’ mode elucidates phenomena or situations (fourth column of Table 2). In storytelling, for instance, the ‘explanation’ mode is more appropriate when reporting, but the ‘planning’ mode is more appropriate when creating a story.

The game assignment (to plan or explain) is formulated in the way of systems planning, as presented in the ‘Systems Thinking’ book (Perdicoulis, 2010). More examples are due in the ‘XV GAMES’ document series.

## 4 Diagrams

Whether using software or pencil and paper, the games involve one or more types of diagrams (see Table 2), which have two areas as the mock-up screenshot of Figure 2: a legend with the semantic categories on the left, and the actual diagram on the right.

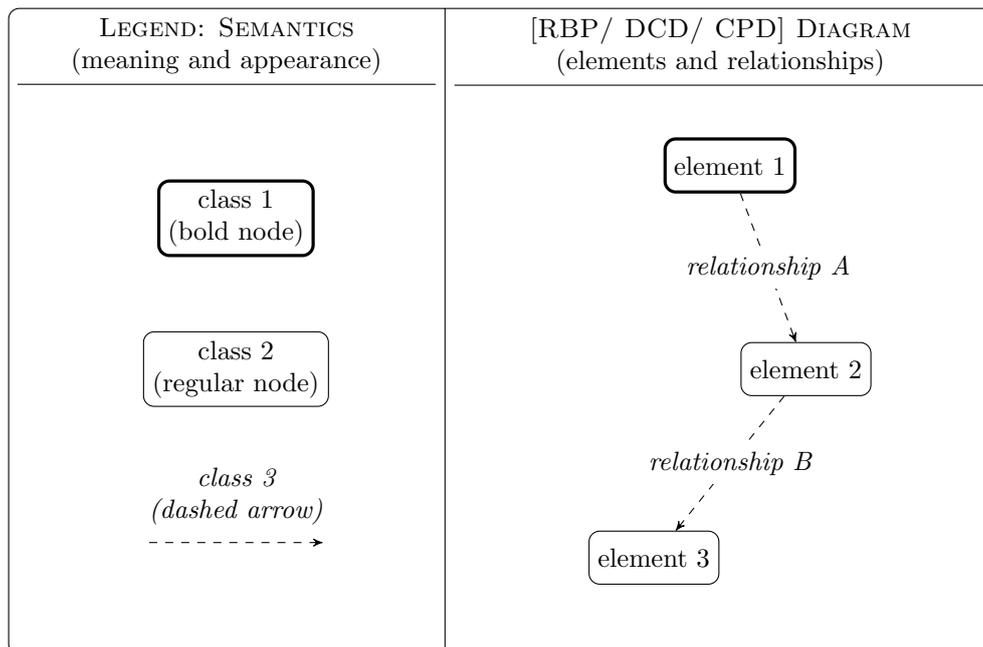


FIGURE 2 Screenshot mock-up for diagrams (RBP, DCD, or CPD)

Causal (RBP and DCD) and process (CPD) diagrams should be drawn after the respective guidelines (Perdicoulis, 2011a).

## 5 Performance Rating

In either mode of the 'XV GAMES', performance is about efficiency. As the modes involve different kind of work, though, efficiency is defined somewhat differently for each mode. The bottom row of Tables 3 and 4 provides some suggestions, should performance or efficiency be assessed numerically.

	PER SCENARIO	TEAM A	TEAM B	TEAM C
EFFICACY (E)	0 to 10 per full pathway	15	12	18
SIDE EFFECTS (S)	-5 to +5 per side effect	-5	-8	-10
RESOURCE USE (R)	1 to 10 per action	5	2	10
EFFICIENCY (PE)	$\frac{(E+S)}{R}$	$\frac{(15-5)}{5} = 2.0$	$\frac{(12-8)}{2} = 2.0$	$\frac{(18-10)}{10} = 0.8$

TABLE 3 Suggested performance rating in the planning mode: rules and examples

	PER VERSION	TEAM A	TEAM B	TEAM C
TRUE STATEMENT (T)	0 to 10 per statement	9	10	8
FALSE STATEMENT (F)	-10 to 0 per statement	-5	-8	-10
RESOURCE: TIME (R)	1 to 10 per explanation	8	7	9
EFFICIENCY (EE)	$\frac{(T+F)}{R}$	$\frac{(9-5)}{8} = 0.5$	$\frac{(10-8)}{7} = 0.3$	$\frac{(8-10)}{9} = -0.2$

TABLE 4 Suggested performance rating in the explanation mode: rules and examples

## References

- Perdicoulis, A. (2011a) Application manual for the 'Systems Thinking' book. *Systems Planner*, 2.
- Perdicoulis A. (2011b) *Building Competences for Spatial Planners: Methods and Techniques for Performing Tasks with Efficiency*. London: Routledge.
- Perdicoulis A. (2010) *Systems Thinking and Decision Making in Urban and Environmental Planning*. Cheltenham: Edward Elgar.

