



# An educational tool in value chain management – A case study competition in the forest sector

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# Outline



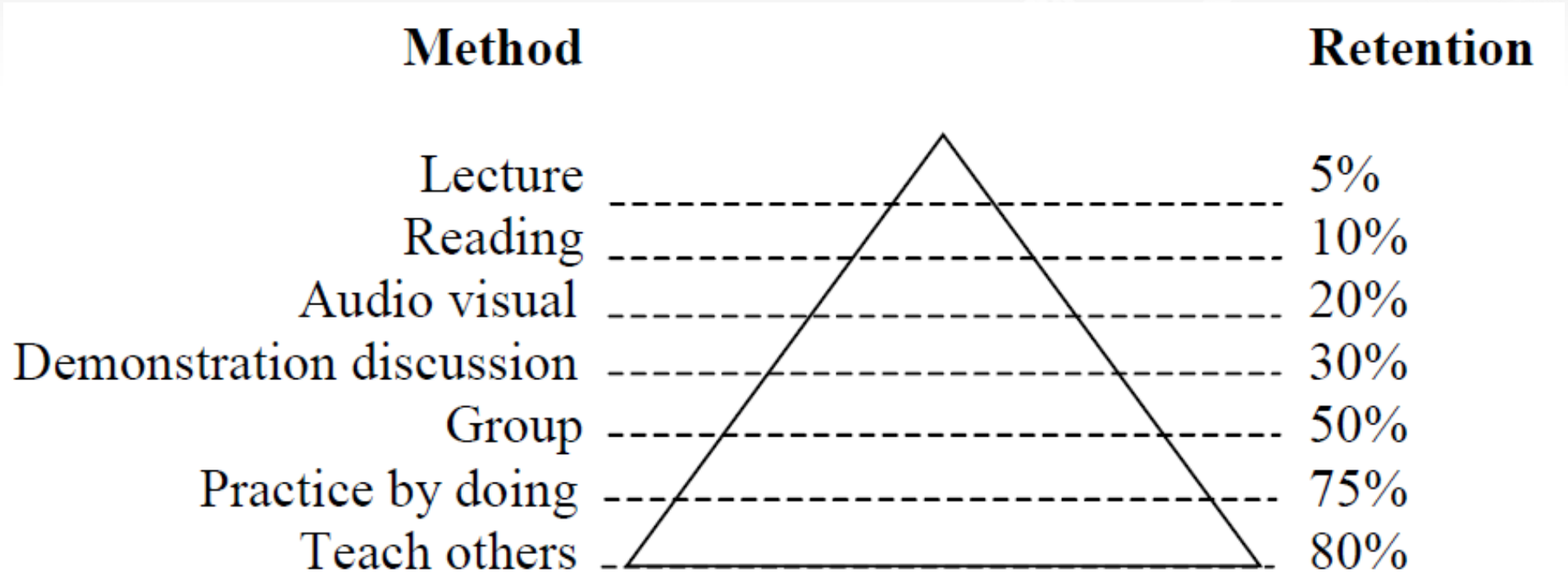
- Case study method
- Background of the competition
- Competition goal, roles and phases
- Experiences after two editions
- Adaptation to classroom

# The case study method



- *“An account or description of a situation, or sequence of events, which raises issues or problems for analysis and solution” - Heath (2002)*
- One of the most common **active** learning approaches, especially in business school
  - early 1900s at Harvard Business School... but already used from the 1800s (medicine, sociology, law and psychology)
  - exist many case-based student competitions at both undergraduate and graduate level
  - in a lecture, typically used to illustrate how a concept/theory was put into practice in a real-life context

# Learning pyramid (even still not clear if research-based originally... but in Mckeachie's teaching tips bible)



Source: Tan (2007) adapted from NTL & Dale (1954)

# The case study method



- Main aspects of a case-based competition:
  - many competing teams working in parallel on the same case
  - allotted time frame (intensive)
  - final presentation in front of a jury
  - evaluation process (ranking of the teams)

## Background of the competition



- Forest industry remains one of Canada's major manufacturing sectors (1.25% GDP)
- Markets for traditional forest commodities are becoming increasingly competitive
- The modern bioeconomy is emerging with expanding marketplaces for value-added bioproducts, forcing the Canadian forest companies to transform their business

## Background of the competition



- How can we commercialize these R&D outcomes?
- Will the forest products companies be willing to make investments on these novel products and associated processes and technologies?
- What are the risks and the benefits?
- There are other proven products/processes/technologies which have been commercialized, should forest products companies also invest in these technologies? Or, should they do nothing and wait?

## Background of the competition



- These are complex decisions which are affected by many economic, environmental and social factors as well as governmental policies and regulations
- Within a multidisciplinary team, you will need to address these complex decisions in a three-day case study competition



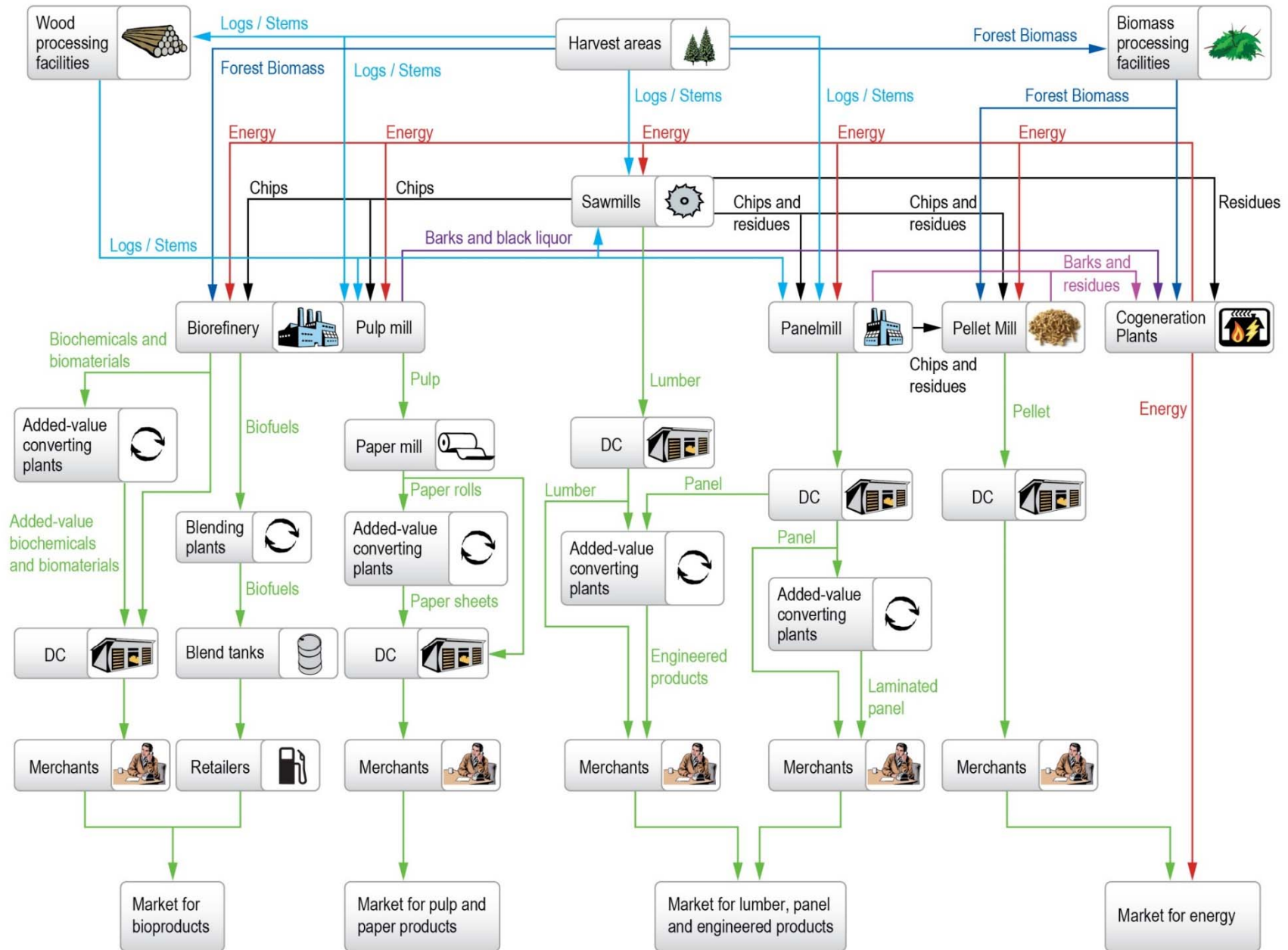
## Competition goal



The main stakeholders (called the *Dragons*) of a Canadian region put out a call for **business transformation proposals** on:

By 2025, how can the current *forest-based value creation network* be transformed to **increase** the sustainable creation of environmental, social and economic values from the regional forest resource?

# Forest-based value creation network

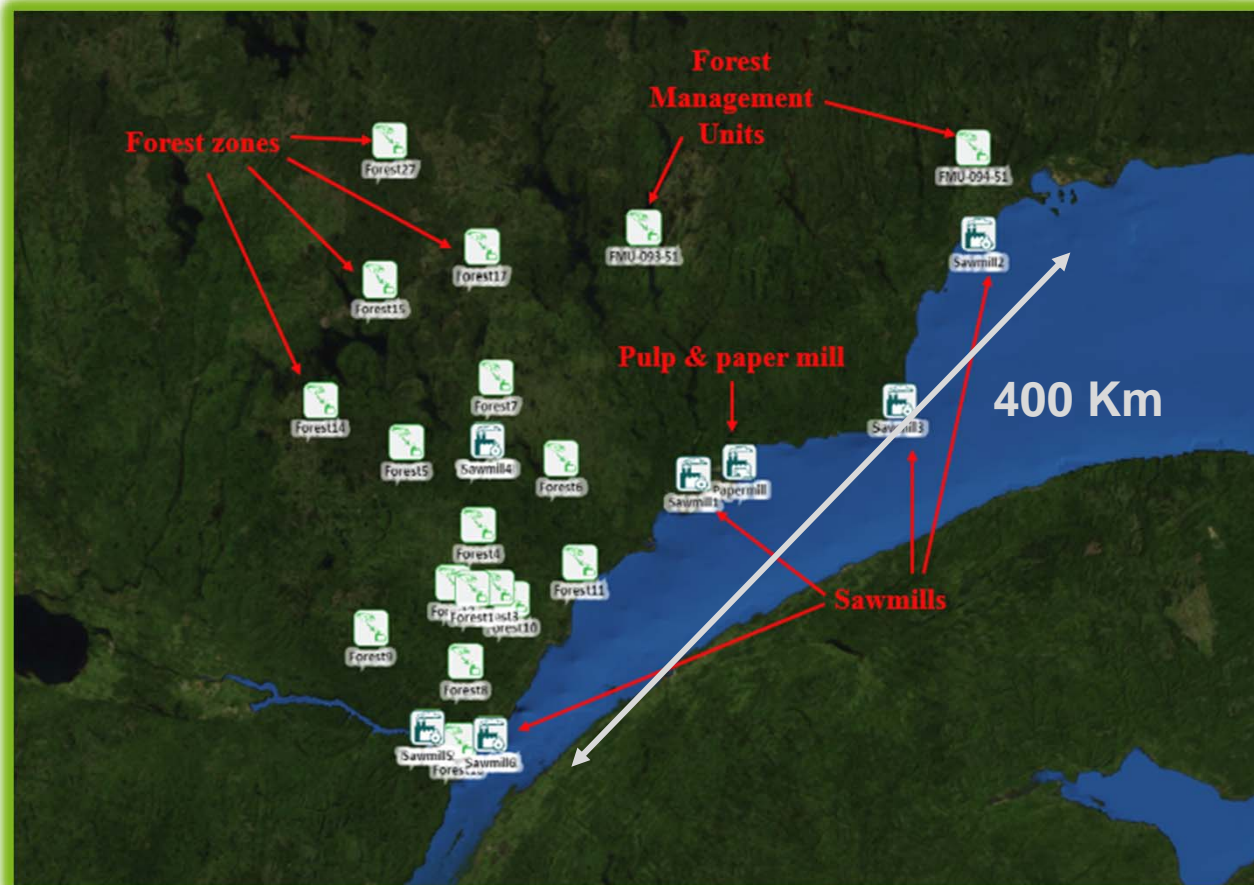


Adapted from D'Amours et al. (2008)

# FVCN case study located North Shore region, QC, Canada



*Similar to about 200 Canadian communities where the forest sector makes up at least half of their economy (NRC, 2014)*



## Competition goal



Within a multidisciplinary team, you will have to:

- develop,
- present, and
- sell

the best business transformation proposal to the  
Dragons

# Case study competition roles



## ■ **Dragons**

- represents one of the main stakeholders in the case study
- analyze and judge the business transformation proposals
- select one proposal in which they will invest/participate in its implementation

# Dragons



<b>Dragon's affiliation (2015 edition)</b>	<b>Stakeholder role in the case</b>
LinksEdge Ltd. (former Tembec Inc.)	Managing director of company 1
Kruger Inc.	Managing director of company 2
Domtar Inc.	Managing director of company 3
Cascades Inc.	Federal government
British Columbia Government	Provincial government
EnVertis Inc.	Local communities
Desjardins	Domestic investors
FPInnovations	Universities and R&D organizations

# Case study competition roles



## ■ **Consultant Teams**

- Develop, present and literally sell the best business proposal... structured around one novel product (2<sup>nd</sup> ed.)
- Benefit from technical support by a product-specialist (2<sup>nd</sup> ed.)

## ■ **Coaches**

- Teams will deliver a complete business proposal
- Provide advises **but not lead the work**

## ■ **Animator Team**

- Overall conduct of the competition, chair and question

# Four-phase competition



- 1) Post-competition preparation and launch
- 2) Parallel working sessions
- 3) Pitch to the Dragons
- 4) Two-phase evaluation



# Phase 1: Post-competition preparation and launch



- Building the team
- Individual reading of the case study and competition guidelines
- Launch of the competition with all teams
  - include presentation of each Dragon
- First parallel working session per team:
  - round table
  - product-specialist introduction

## Phase 2: Parallel working sessions



- Select a team leader
- Set-up a work plan and allocate the tasks
- Meeting with individual Dragons
- Work on the business transformation proposal

## **Business transformation proposal – 4 key aspects**



**a- What is the value proposition at the core of your business proposal?**

**b- What are the main steps/deliverables to implement your business proposal over the 2015-2025 horizon?**

**c- What are the anticipated outcomes of your business proposal on the FVCN and how will you assess their achievement?**

**d- What is the risk assessment of your business proposal (e.g. oil price scenarios) and the potential competition?**

## Phase 3 – Pitch to the Dragons



- Presentation followed by a question period by the Dragons
- All presentation and executive summary (paper copy to the Dragons) submitted before the first presentation
- Draft for the presentation order

# Phase 4 – Two-phase evaluation



## ■ Phase 1: Individual evaluation per Dragon

Criteria	Performance				
	Poor			Excellent	
	1	2	3	4	5
1. Scope and novelty of the proposal					
2. 2015-2025 plan feasibility with cash flow description and required changes to the existing production facilities					
3. Demand-driven approach of the proposal, including a strong description of the expected demand and revenue for their products basket (i.e. volume/price/profit margin over time, markets, types of customer and distribution strategies);					
4. Social-economic-environmental outcomes with quantitative/qualitative assessment criteria					
5. Risk-return trade-offs of the proposal with potential competition and impact according to the three oil price scenarios					
6. Overall clarity and completeness of the proposal and the communication					
7. Balanced overall					

Note: \_\_\_\_\_

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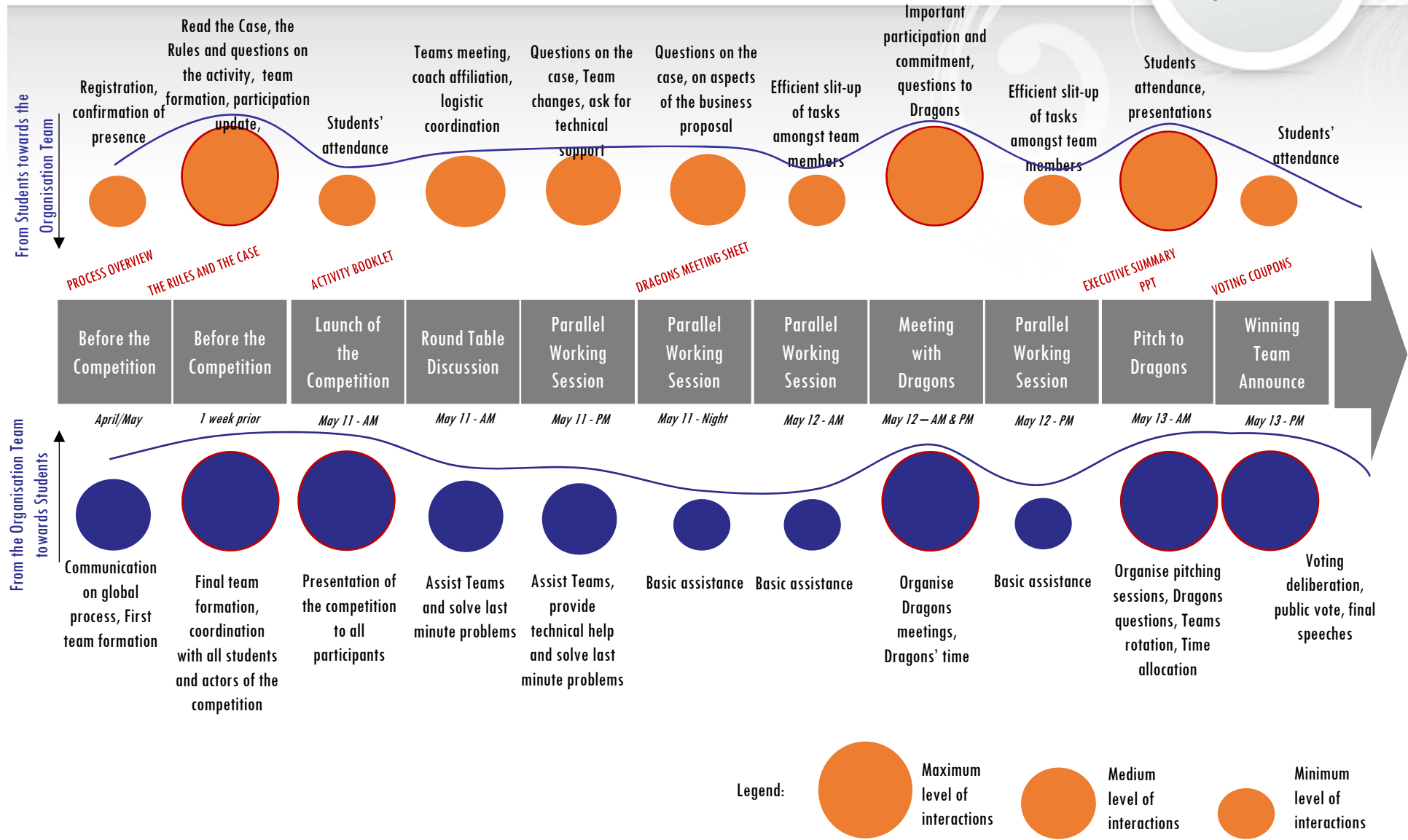
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## Phase 4 – Two-phase evaluation



- Phase 1: Individual evaluation per Dragon
- Phase 2: Jury deliberation up to reach a consensus (one winner and up to two other finalists)

# Interaction level over time



# Experiences learned after two editions



- Overall positive feedback
- Team building
- Reinforce coach role
- Approaches for meeting with each Dragon (one-to-one / many-to-one)
- Novel product: maturity level and IP compliance
- Public vote (top 3)
- Evaluation process per the Dragon
- Number of Dragons and student per team
- Additional valuable material, e.g. tutorials, template of business proposal
- Presentation & question length (15-15 / 5-15)



# Adaptation to classroom



- Teamwork during the session (report and presentation evaluation)
- Training of advanced decision-making methods to support their work
- List of key topics per Dragons to support academics in playing the stakeholder's role (but worth as well with 'real' Dragons)
- Less number of Dragons (grouping of the roles)
- Case study structured in independant 'removable' modules, e.g.:
  - reduce the case complexity/lenght
  - customize to the course objectives
- Bring more dynamic aspect in the case by introducing new information revealing over the session

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## References



- » D'Amours et al. (2008)
- » Dale, E. 1954. Audiovisual methods in teaching (Revised ed.). New York: Dryden Press.
- » Heath (2002)
- » NRC
- » NTL Institute for Applied Behavioral Science, The Learning Pyramid, 300 N. Lee Street, Suite 300, Alexandria, VA 22314.
- » Tan (2007)