

---

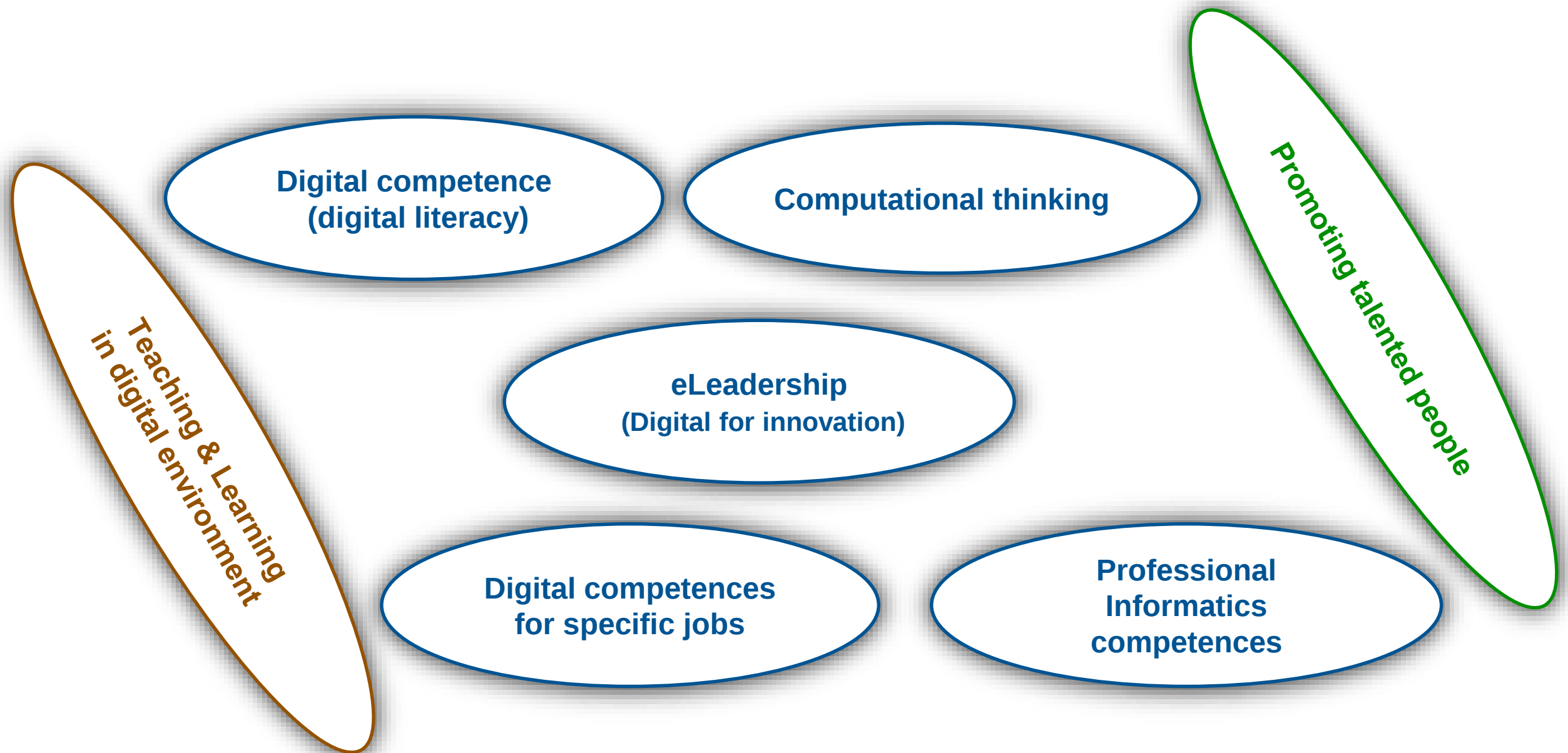
**Computing in Schools - Past, Present, Future  
Mini-Conference**



***The AICA proposal for Computing  
in Italian Primary and Lower Secondary  
Schools***

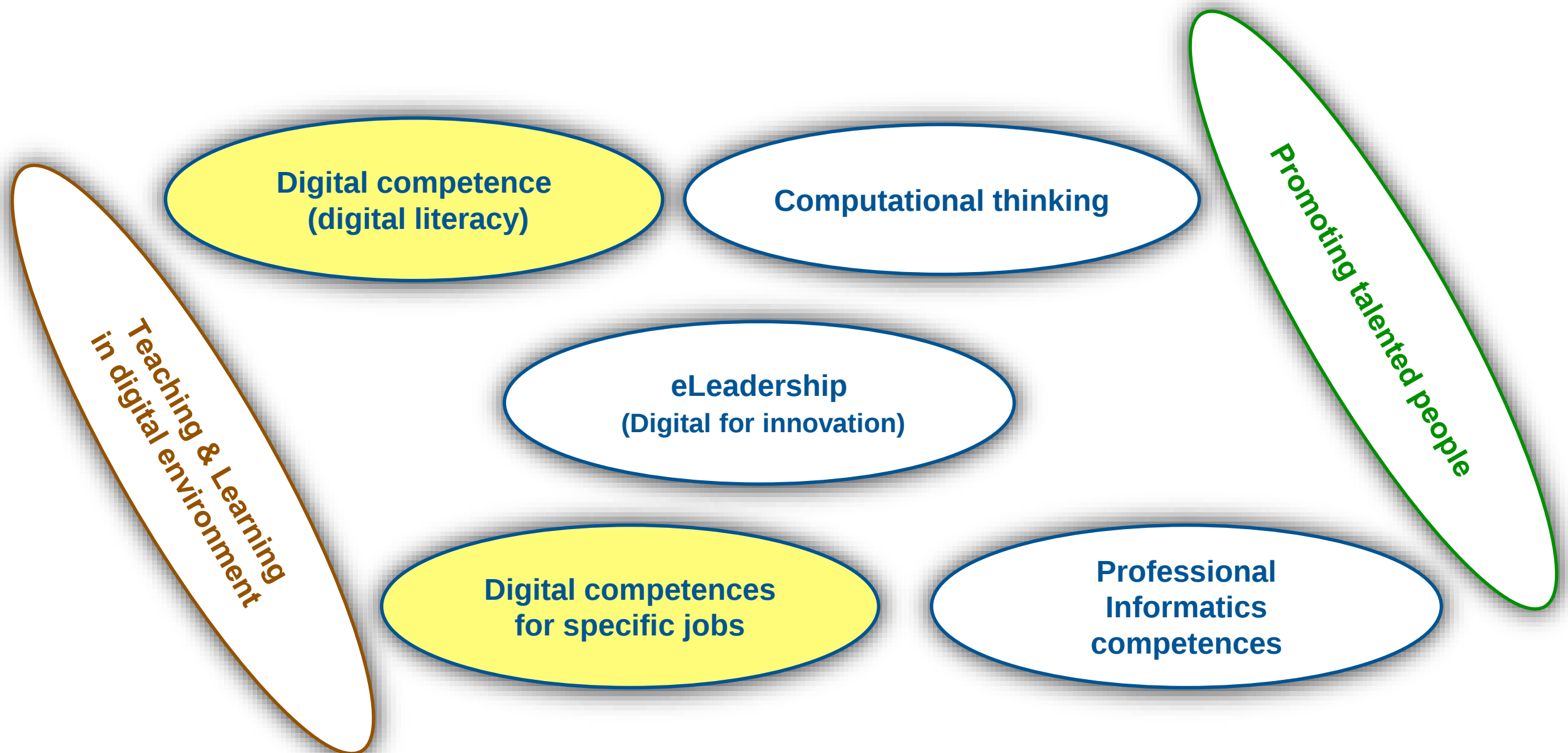
# Computing: so many aspects

---



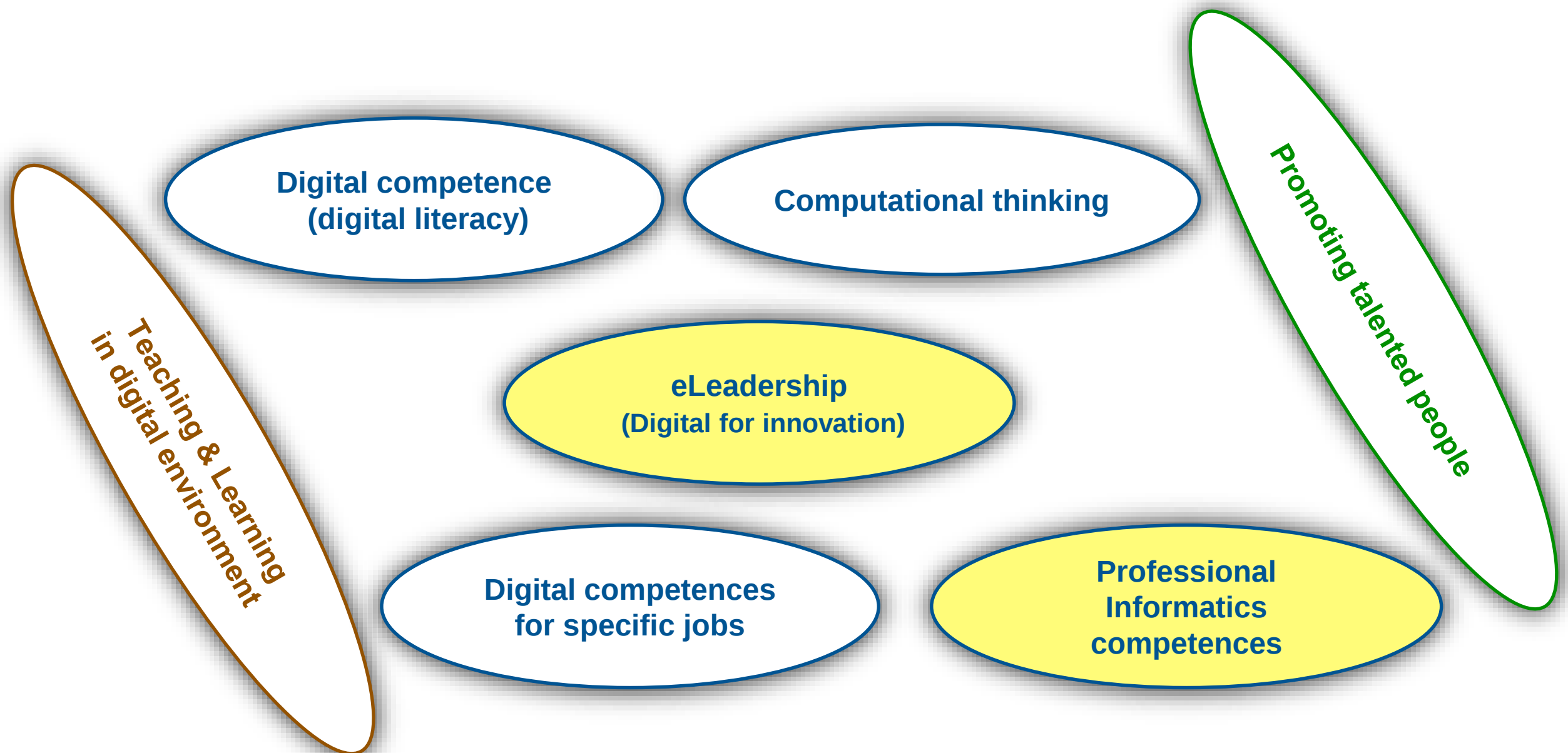
# Computing: so many aspects

---



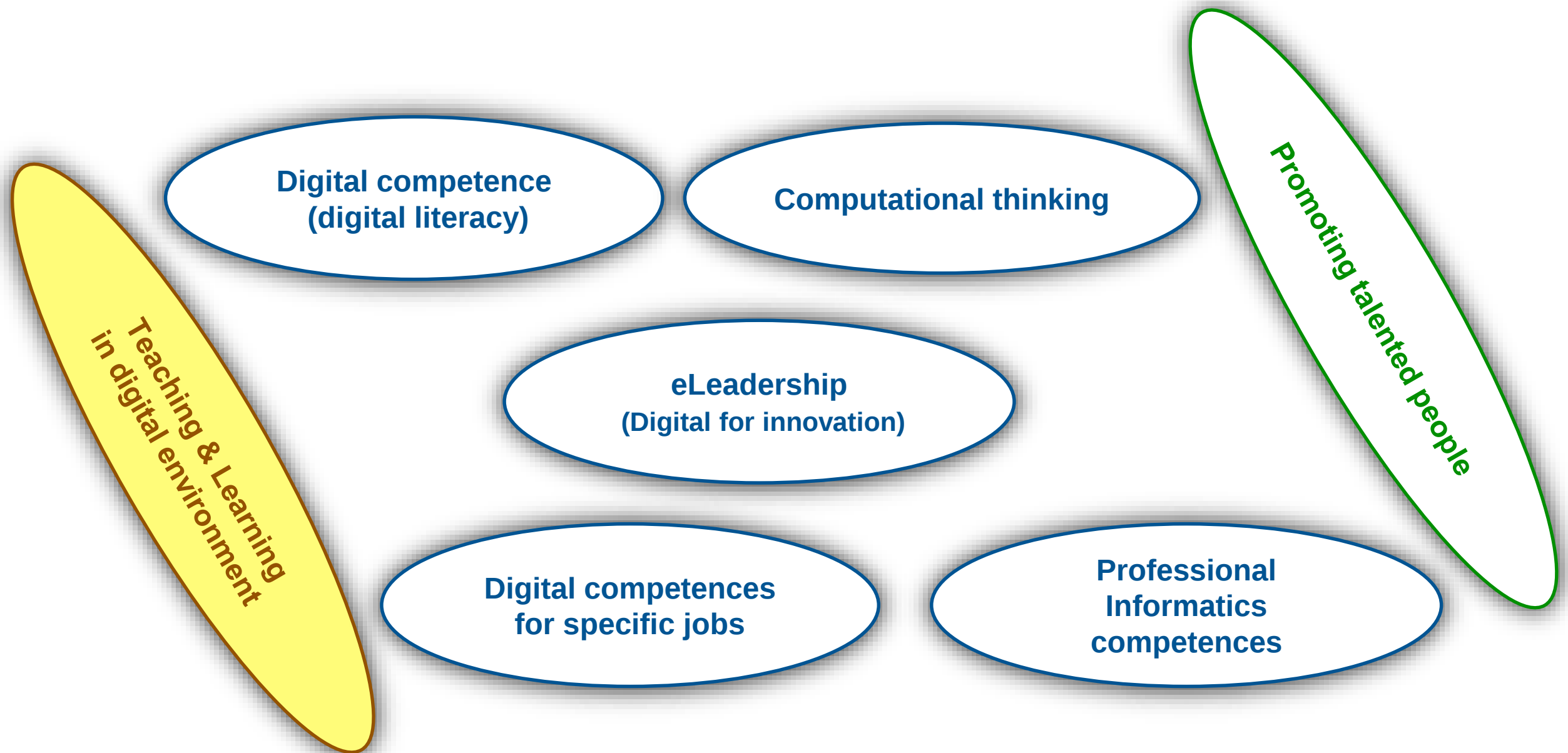
# Computing: so many aspects

---



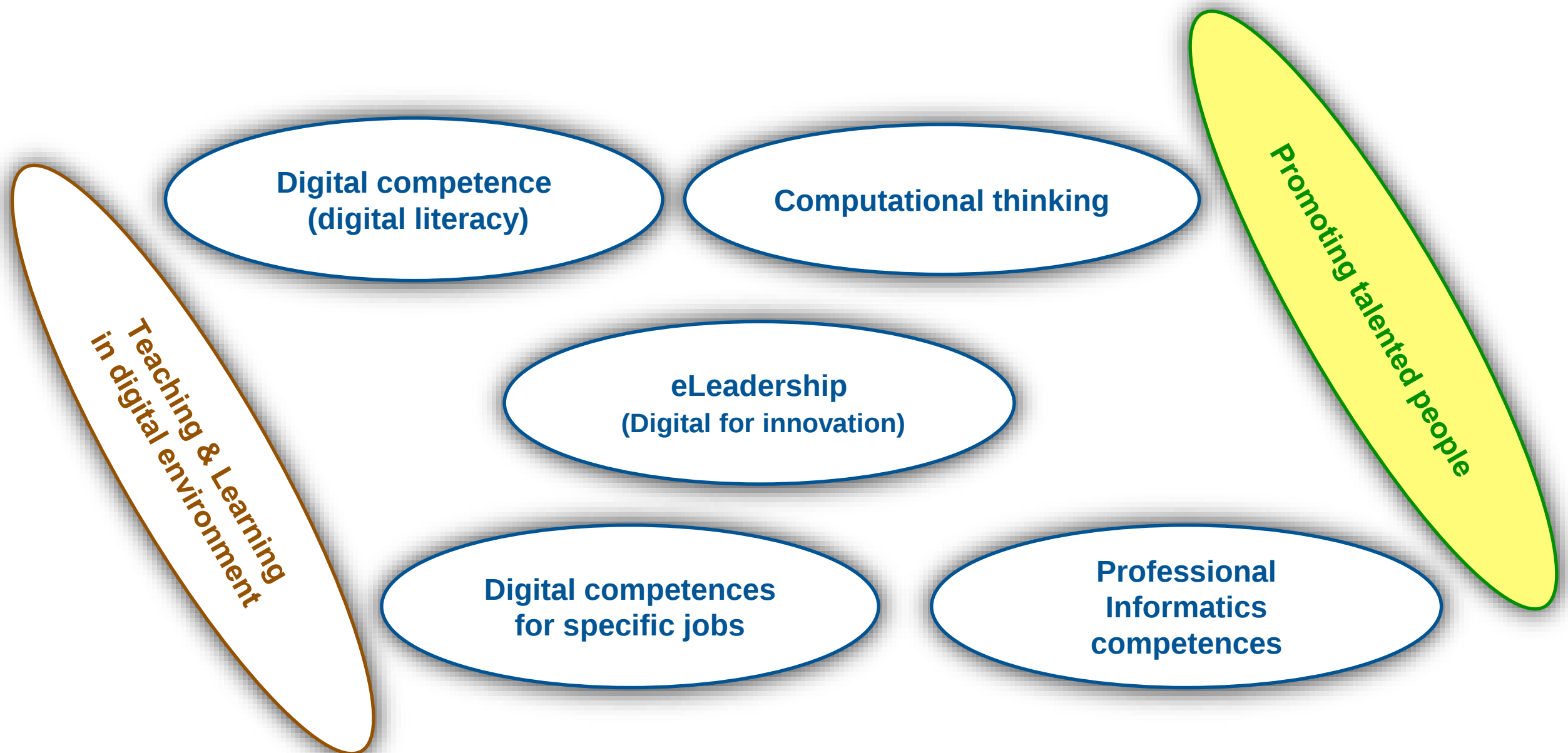
# Computing: so many aspects

---



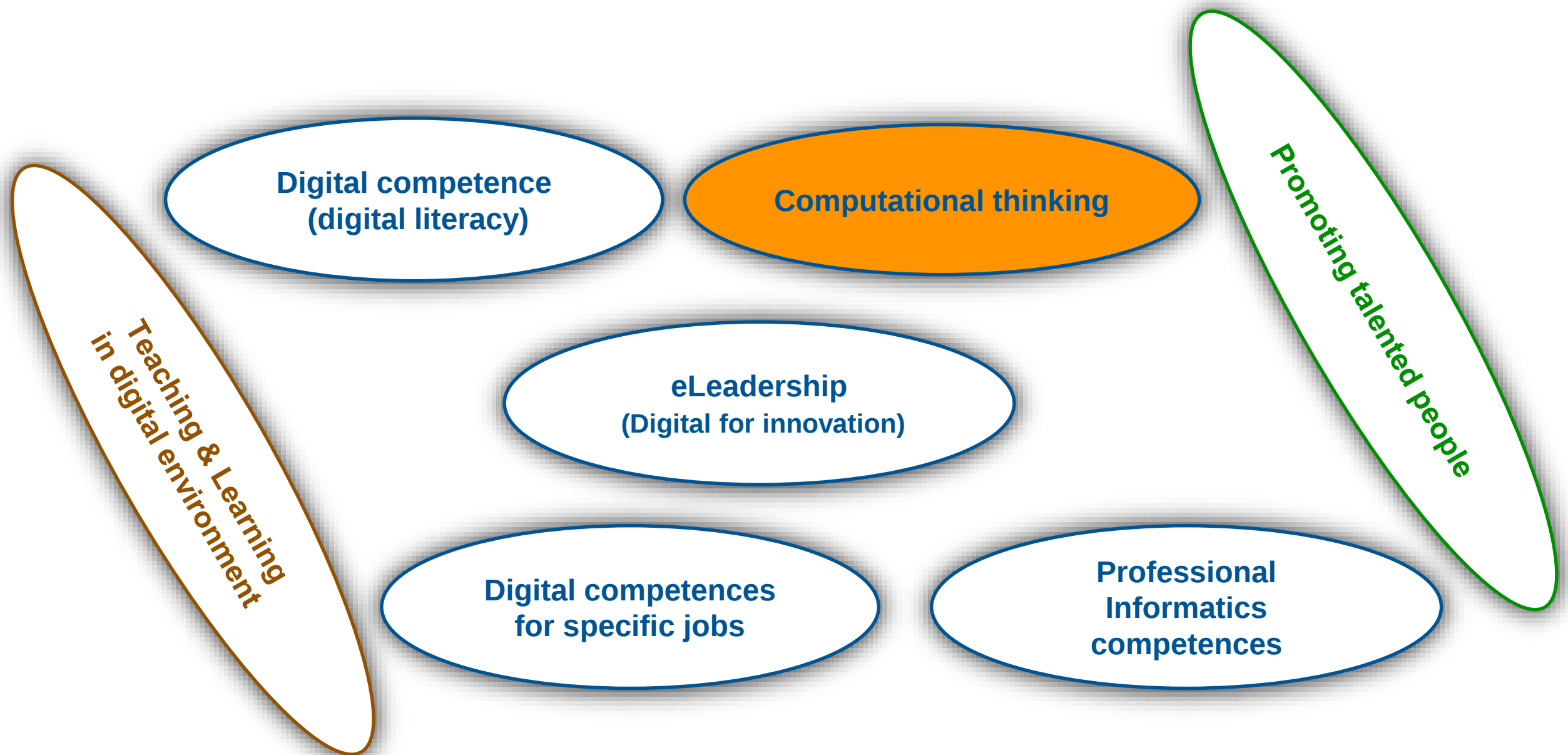
# Computing: so many aspects

---



# Computing: so many aspects

---



# Two documents

---

## Digital competence (digital literacy)

*Digital competence involves the confident and critical use of Information Society Technology for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet”*  
(European Parliament Recommendation 2006)

## Computational thinking

*“Computer science deals with the theoretical foundations of information and computation, together with practical techniques for the implementation and application of these foundations”*  
(Wikipedia)

# Cepis and Foundation documents



# Cepis and Foundation documents

*“Immediate action is needed to better integrate **Computer Science** in the school system and change the perception of computing among young people”.*

*“The school ICT curricula need to reflect a balance between the development of **Digital Literacy** and **Computer Science**”.*

# Why Computational thinking?

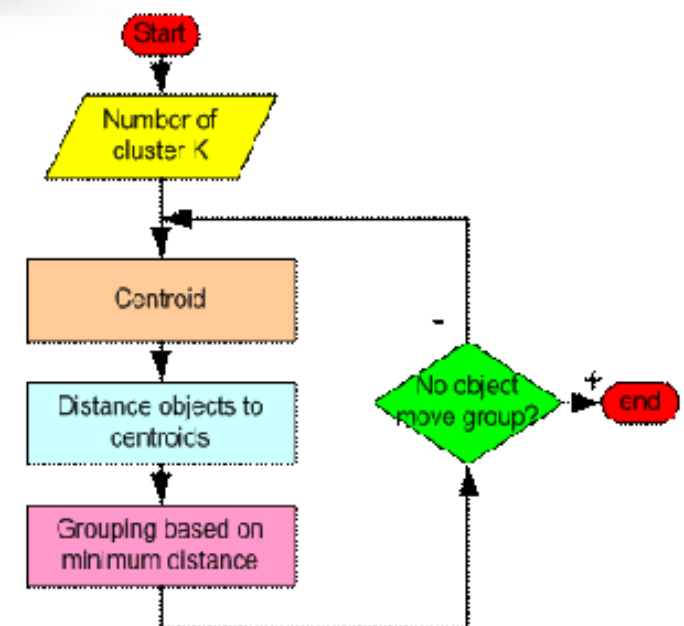
## 1. The problem solving value



Piaget

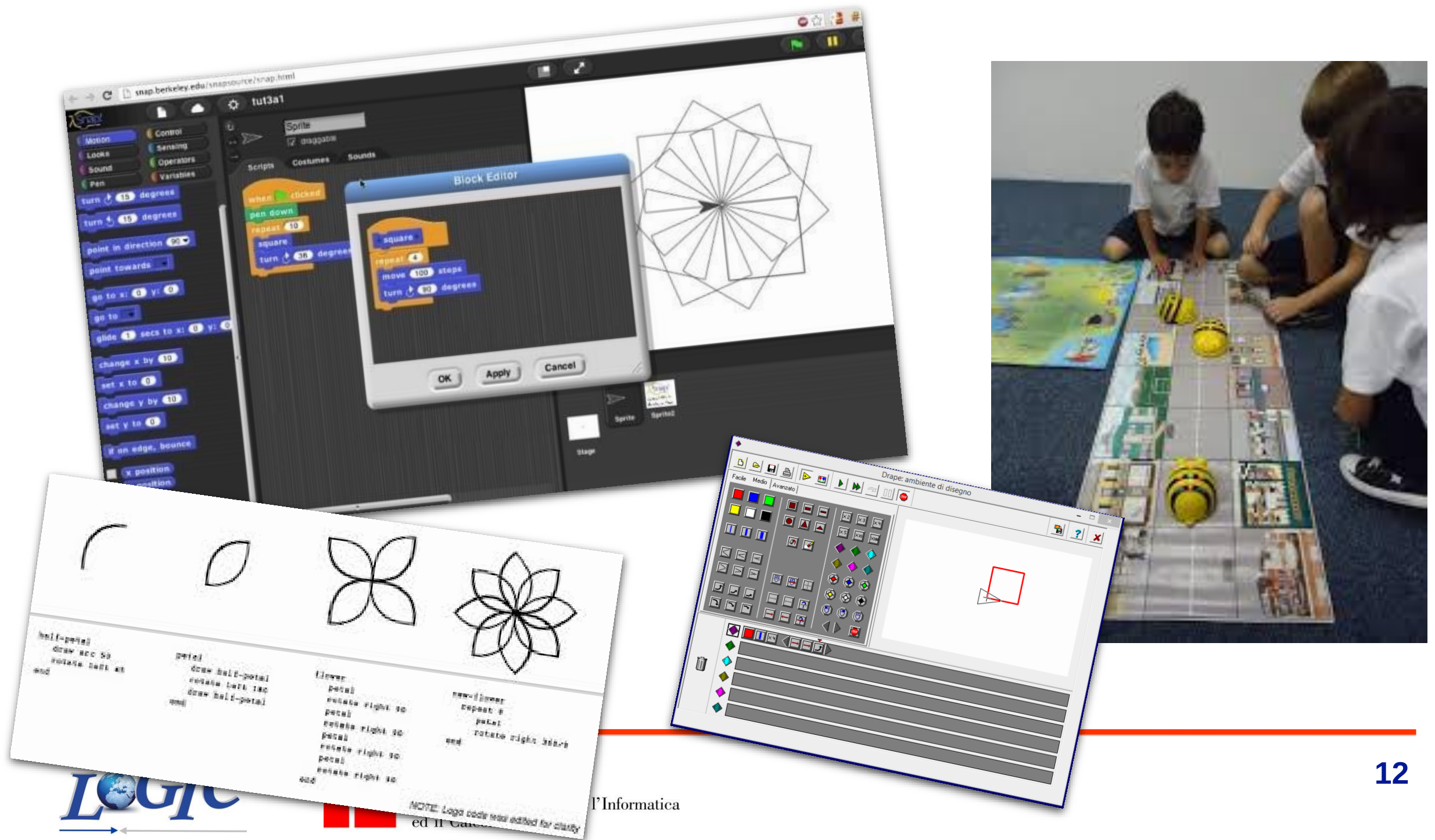


Papert



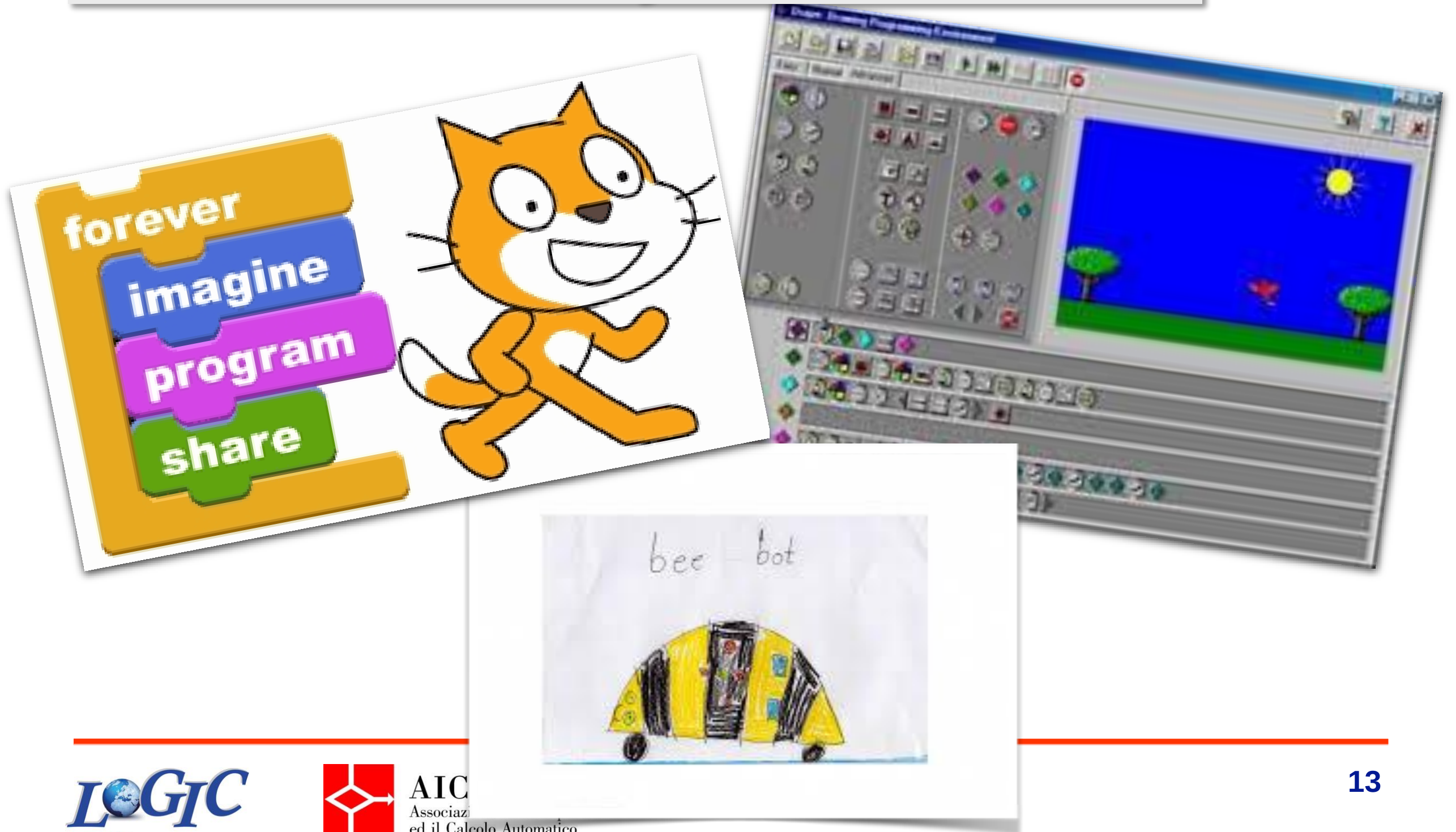
# Why Computational thinking?

## 2. The STEM value



# Why Computational thinking?

## 3. The “creativity” value



# Why Computational thinking?

## 4. The value for future workers



# Why Computational thinking?

## 4. The value for future workers

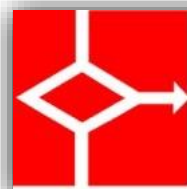


# LOGIC

---



A proposal AICA - ANFOR for pre-Primary,  
Primary & lower Secondary Schools



**AICA**  
Associazione Italiana per l'Informatica  
ed il Calcolo Automatico



**ANFOR**  
Associazione Nazionale per la  
Formazione e l'Orientamento

Focus on pedagogical teachers training

# LOGIC Modules

---

**Mod A**  
**Pedagogical theories**  
(Teachers)

**Mod 1**  
**Bee bot**

**Mod B**  
**Algorithms &  
Problem solving**  
(Students)

**Mod 2**  
**Drape**

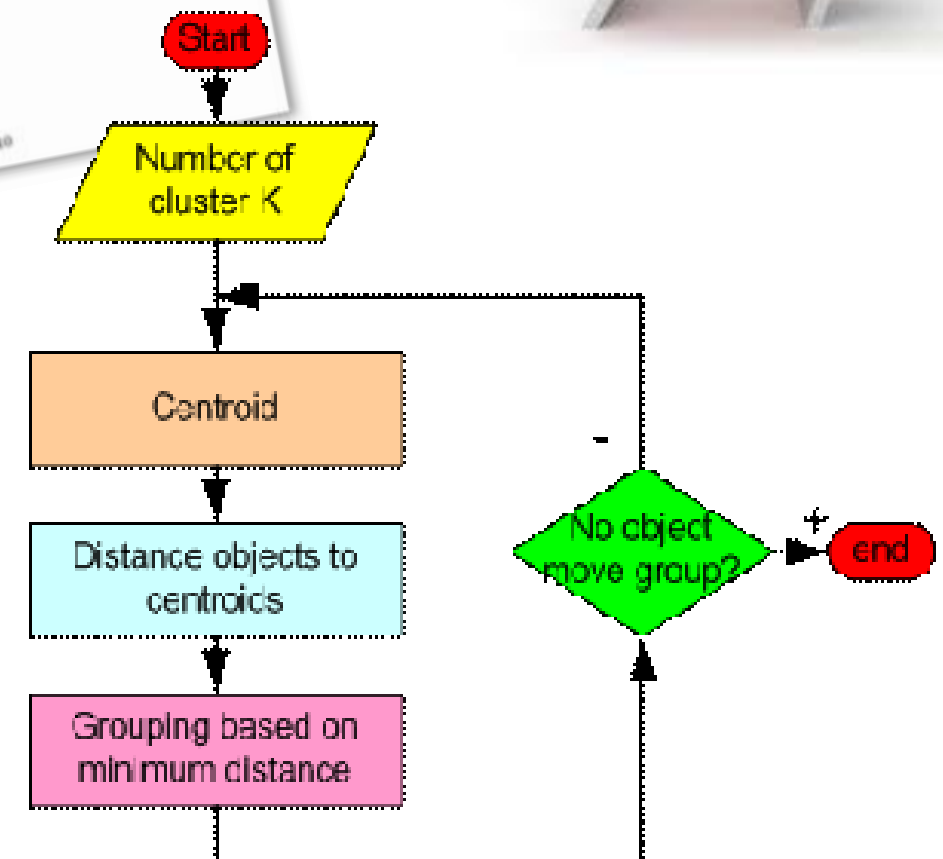
**Mod 3**  
**Logo**

**Mod 4**  
**Robomind**

**Mod 5**  
**Snap! by Scratch**

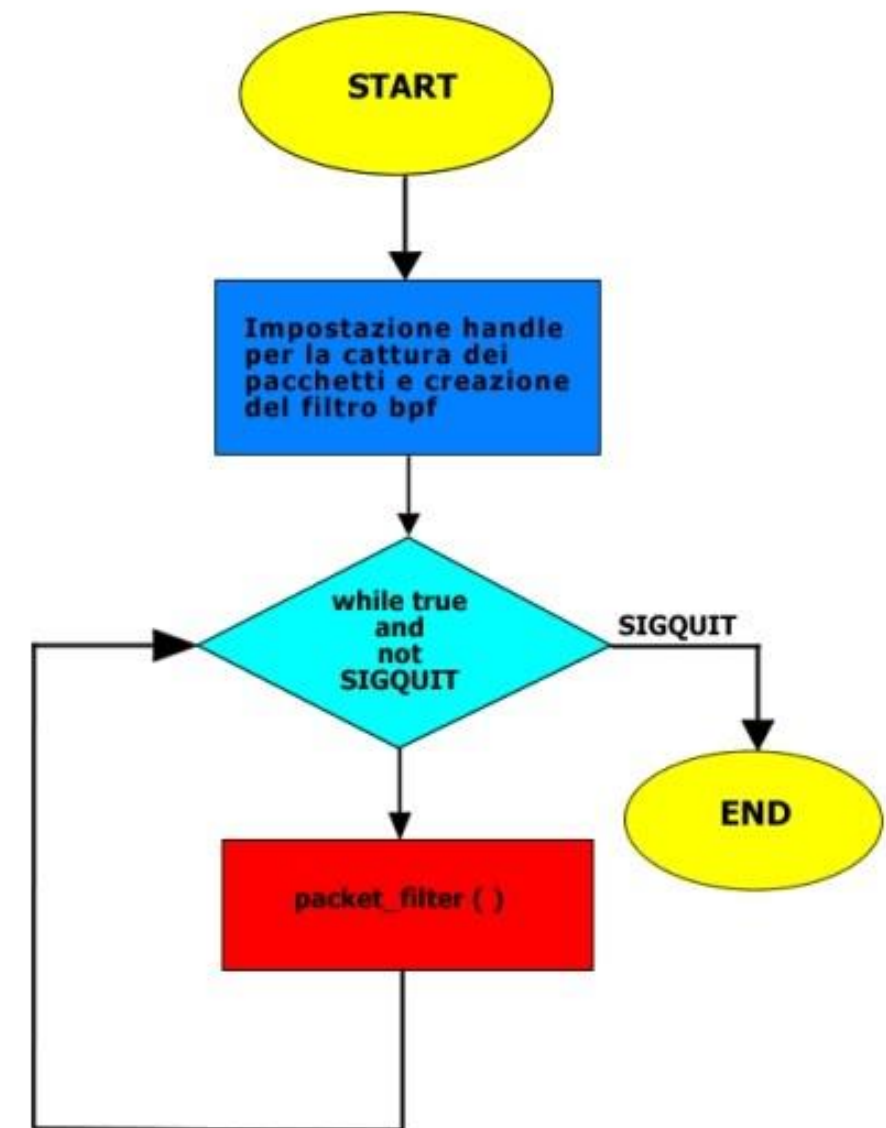
# Module A: Pedagogical theories

Mod A  
Pedagogical theories  
(Teachers)



# Module B: Algorithms & PS

Mod B  
Algorithms &  
Problem solving  
(Students)



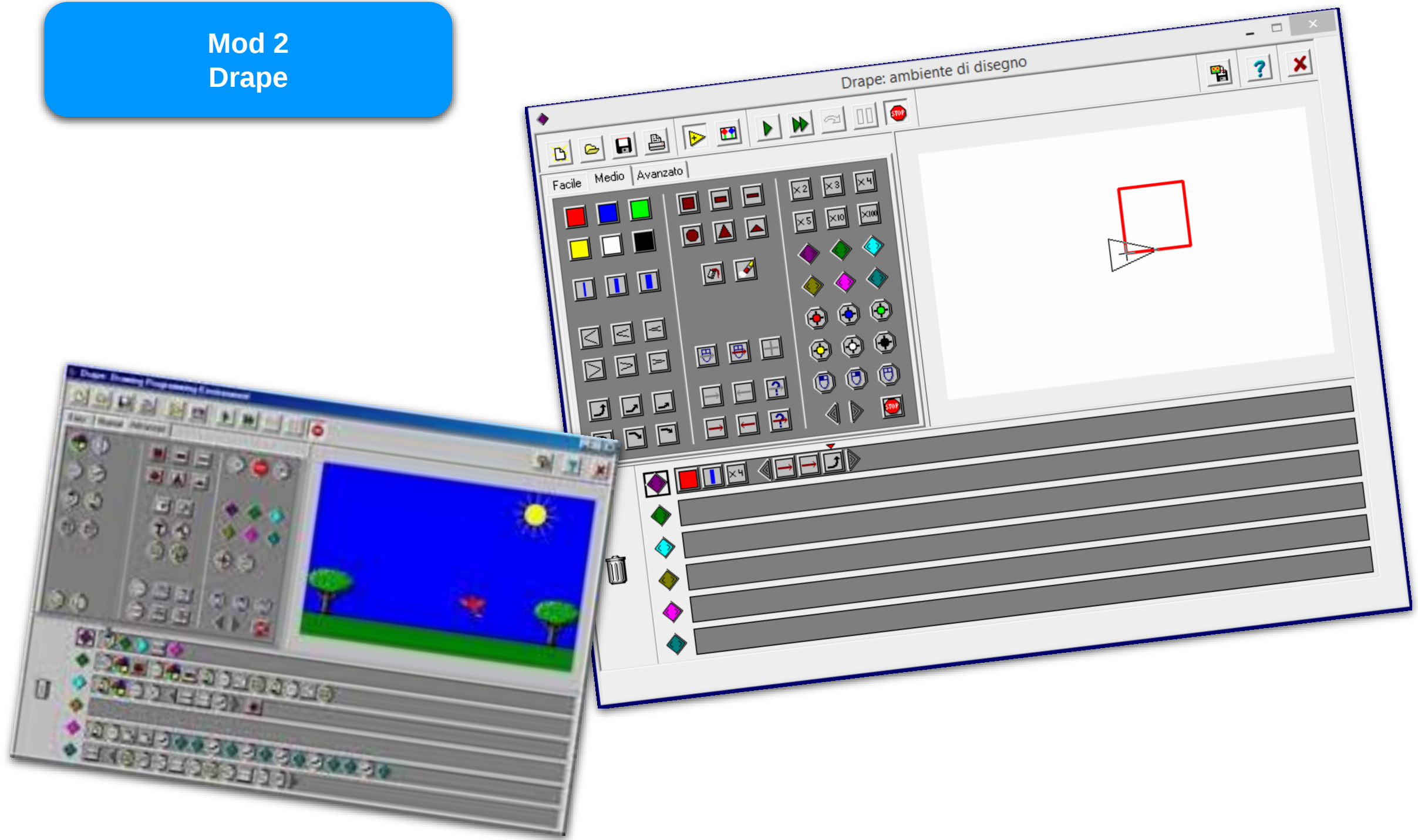
# Module 1: Bee bot

Mod 1  
Bee bot



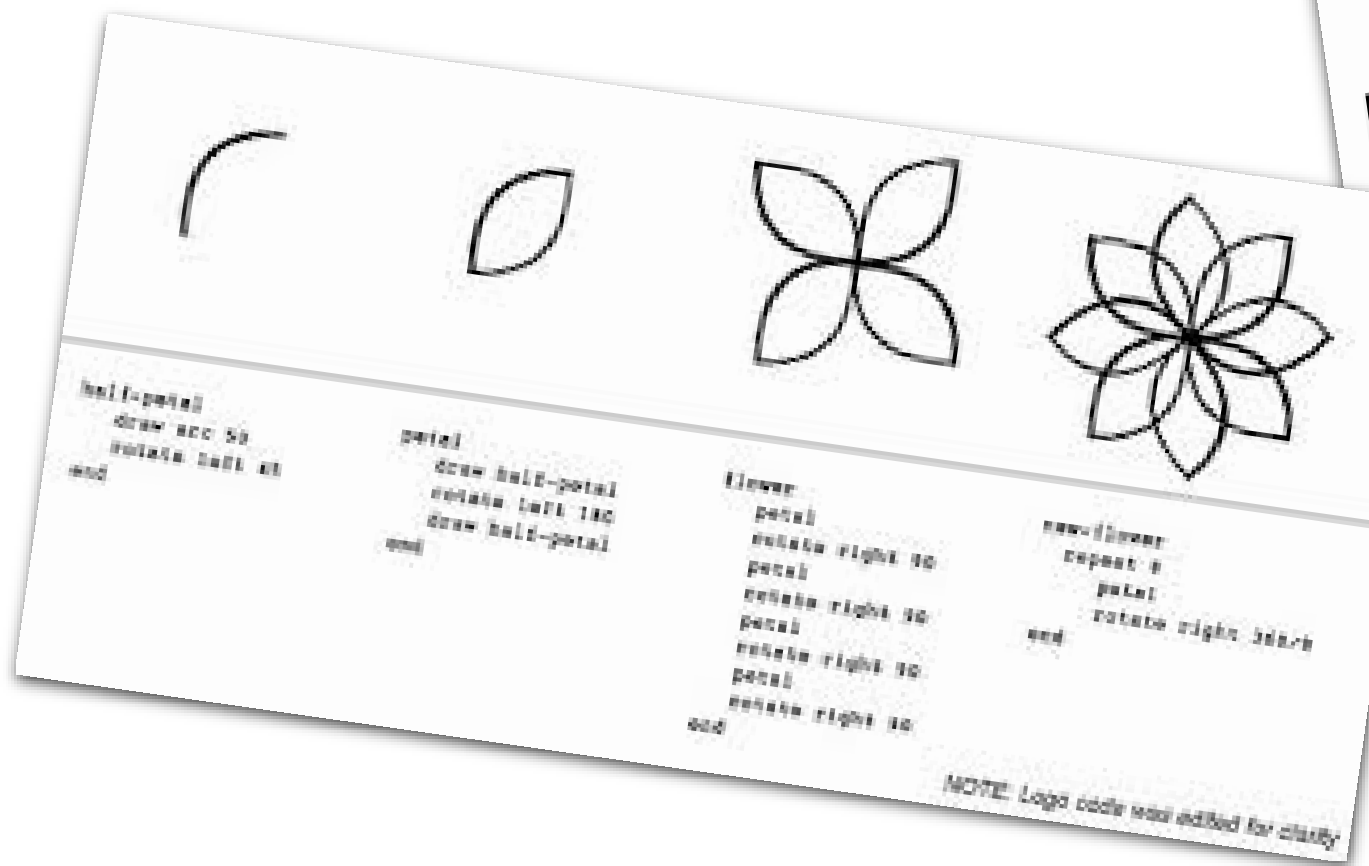
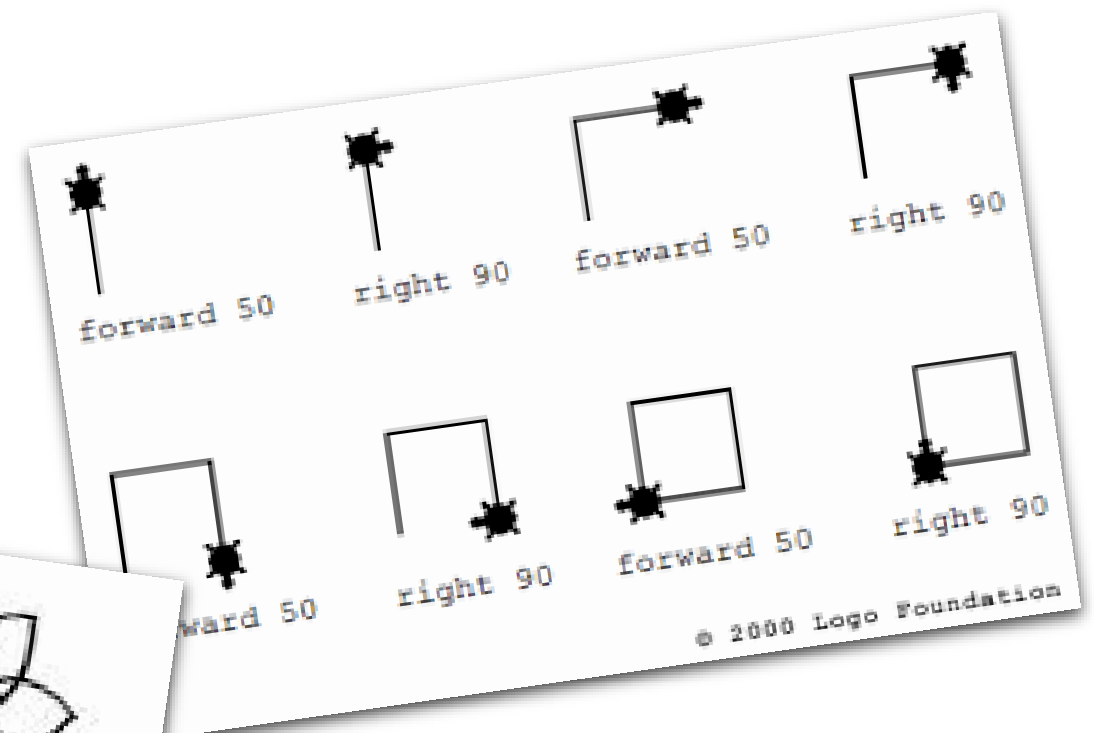
# Module 2: Drape

Mod 2  
Drape



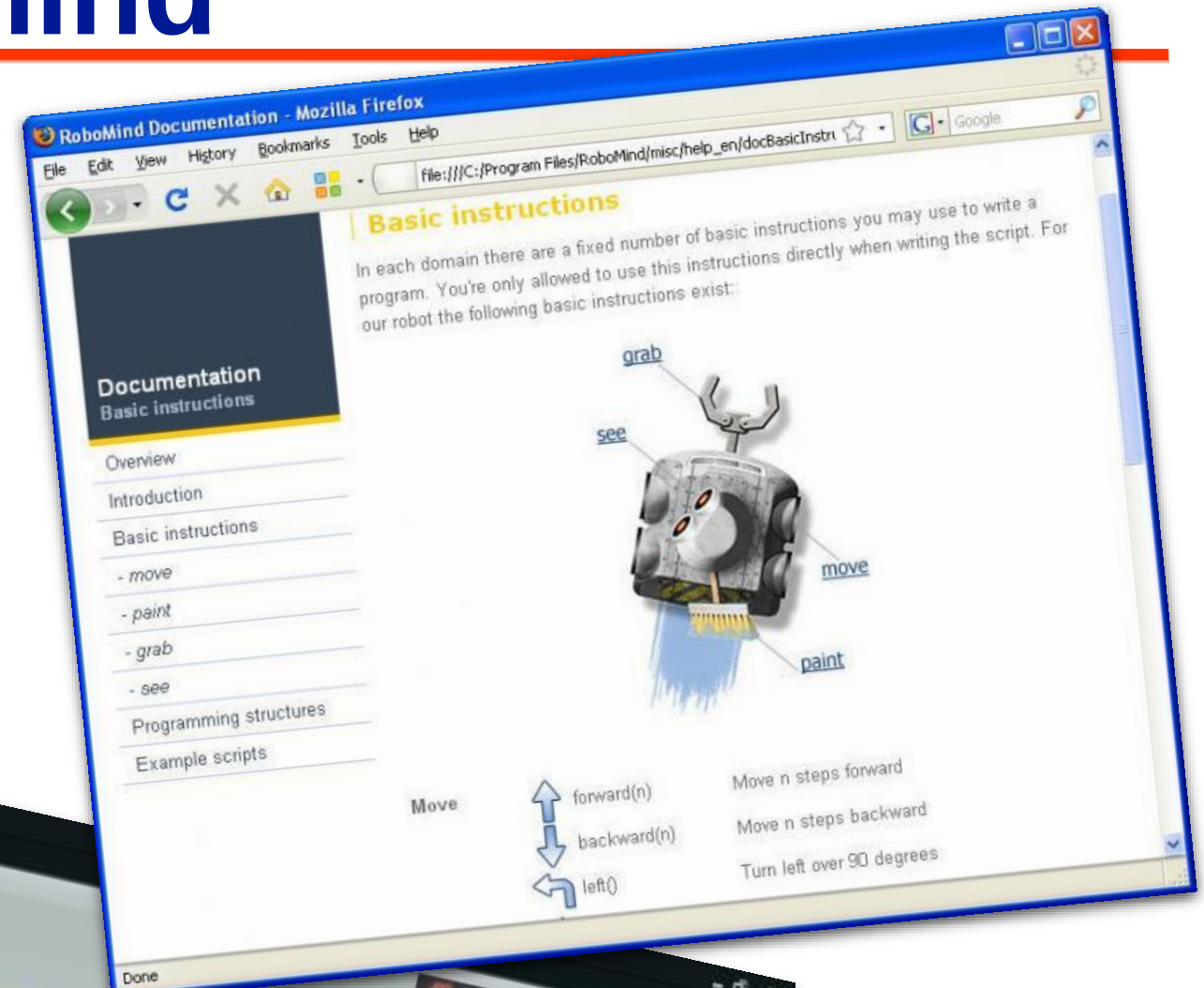
# Module 3: Logo

## Mod 3 Logo



# Module 4: Robomind

## Mod 4 Robomind



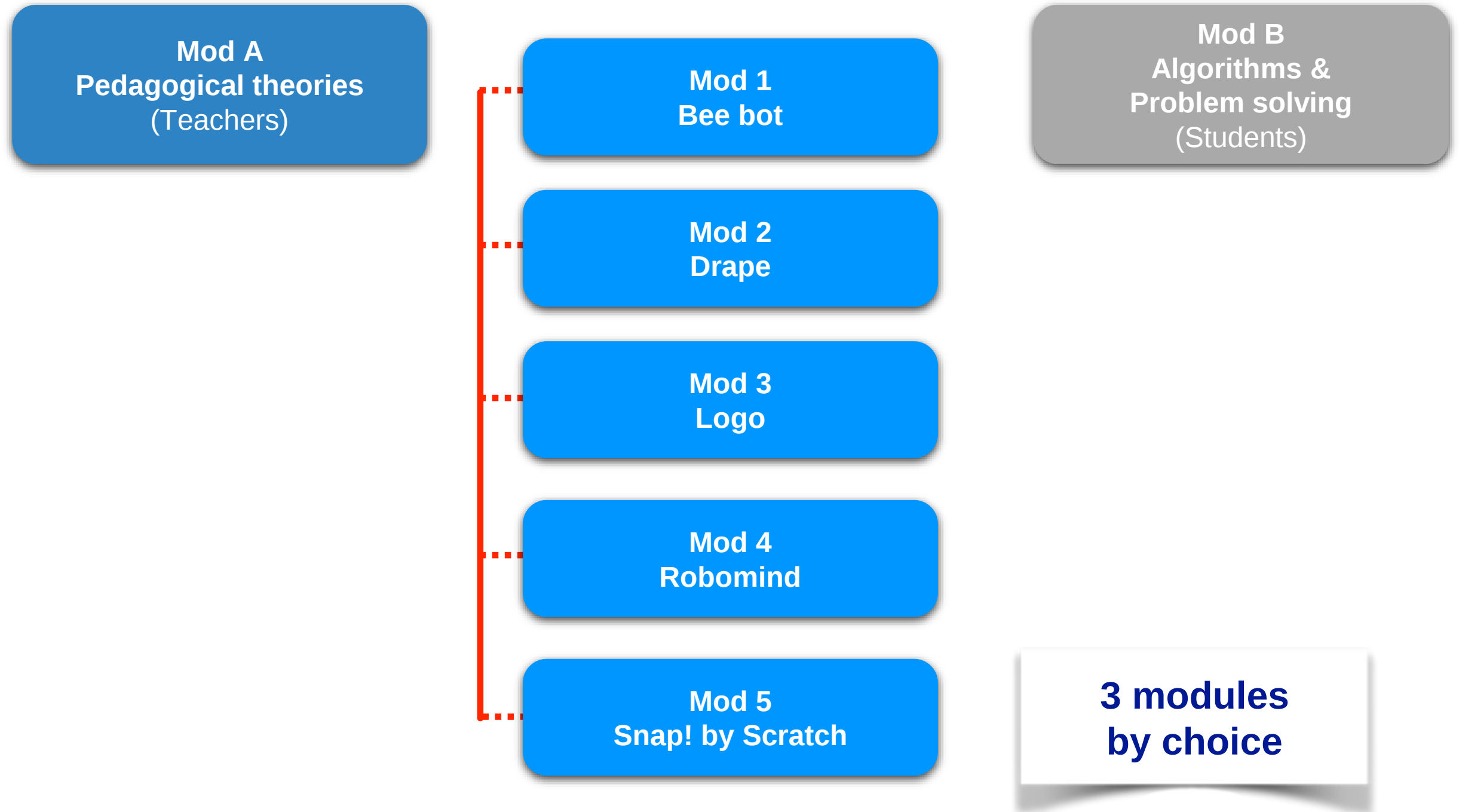
# Module 5: Snap! by Scratch

Mod 5  
Snap! by Scratch

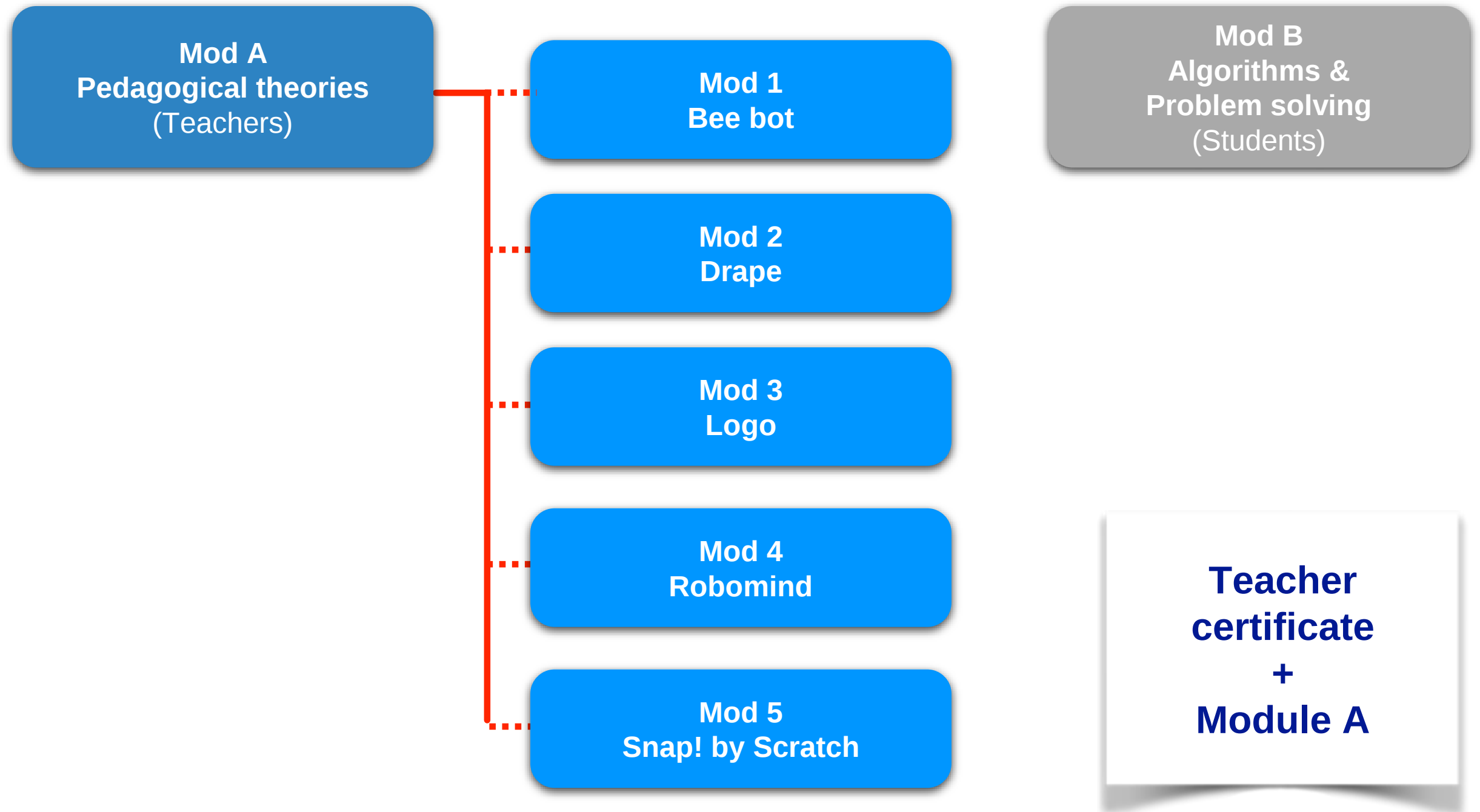


# Teacher Certificate

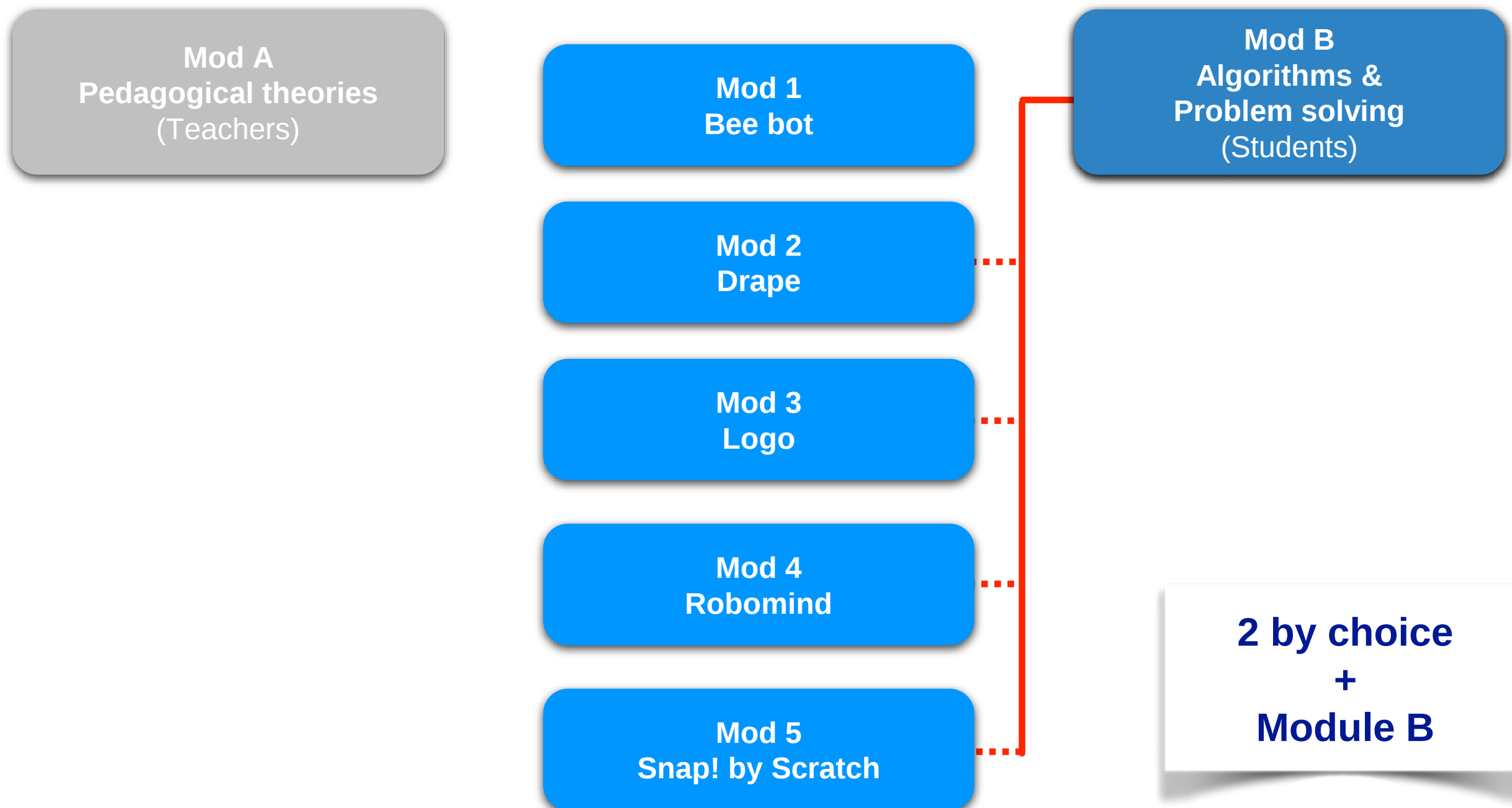
---



# Expert Certificate



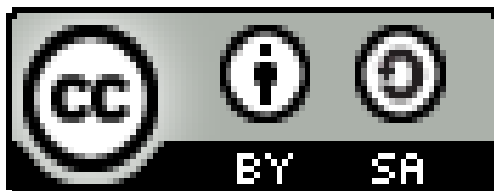
# Student Certificate



---

# Thank you for the attention

*Pierfranco Ravotto*  
*p.ravotto@aicanet.it*



*Creative Commons: Attribution – Share alike.*

*You are free to use, modify and distribute this presentation citing the original author and leaving the same rights on the resulting product.*