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**Little cascades of innovation to deep changes :
contribution of digital and artificial intelligency to the
active pedagogies**

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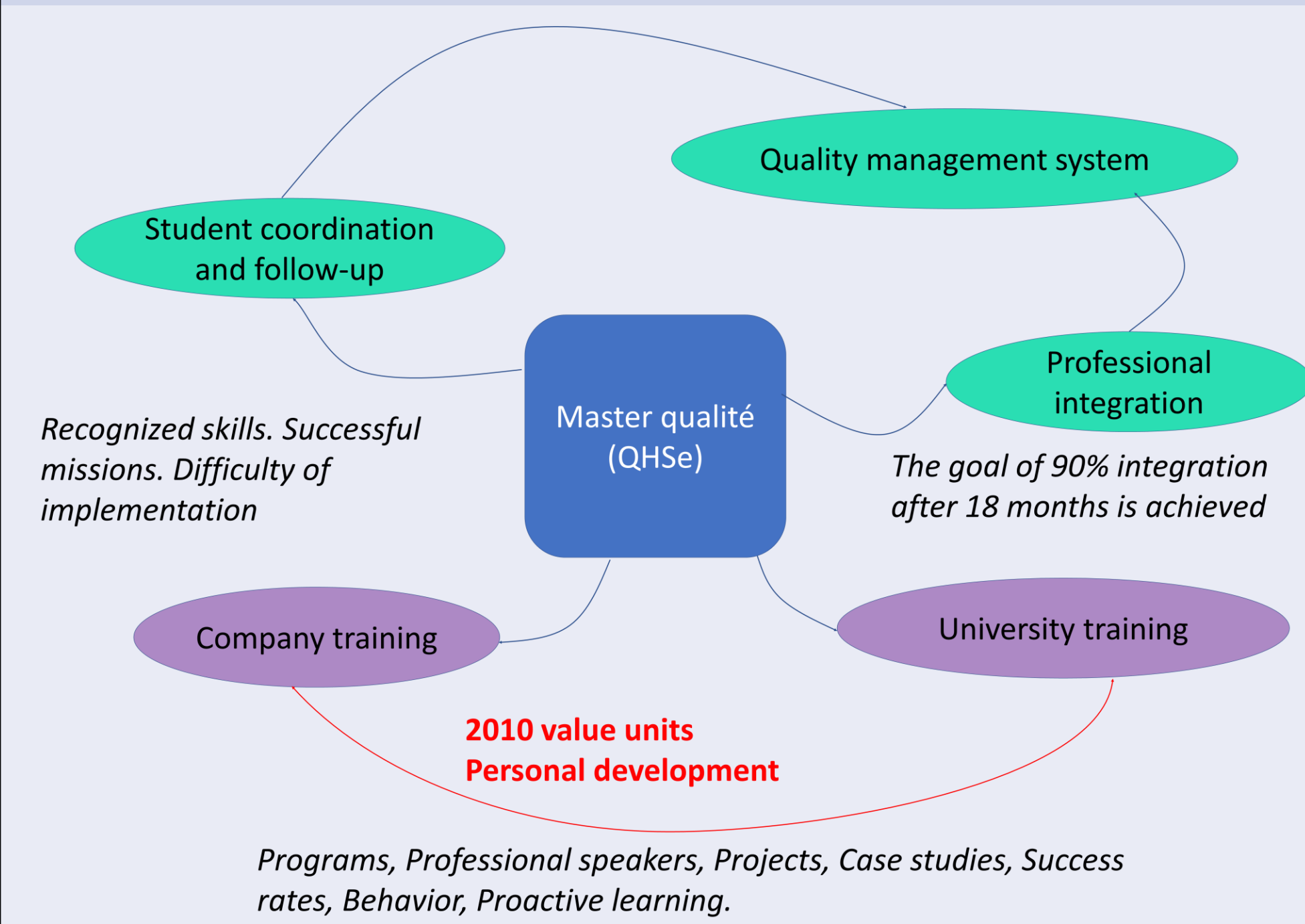
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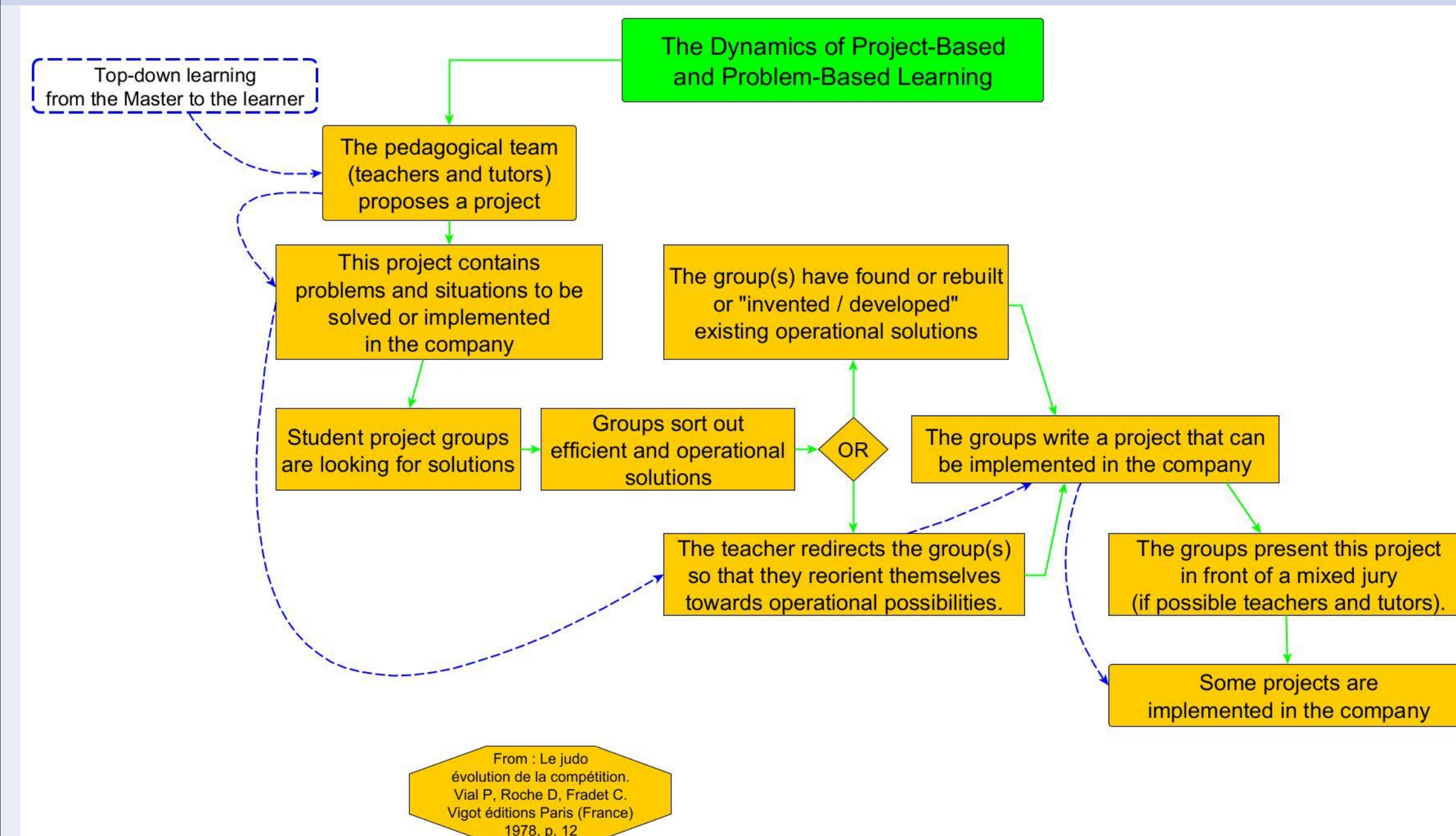
Little cascades of innovation to deep changes : contribution of digital and artificial intelligence to the active pedagogies

Pedagogical innovation(s): active pedagogies integrate a system: problematic->process->procedure

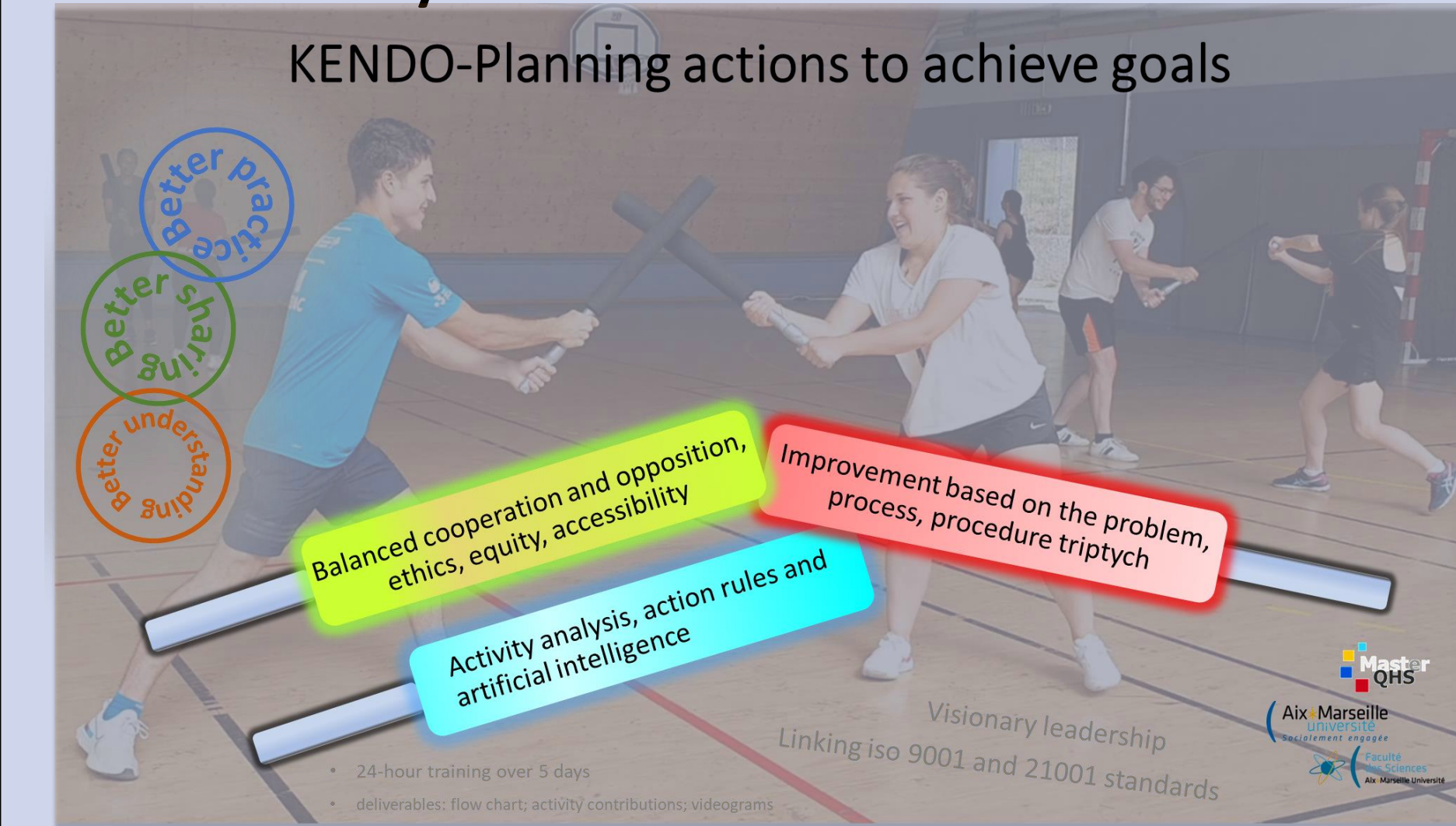
Organization of the master



From classical teaching to APP

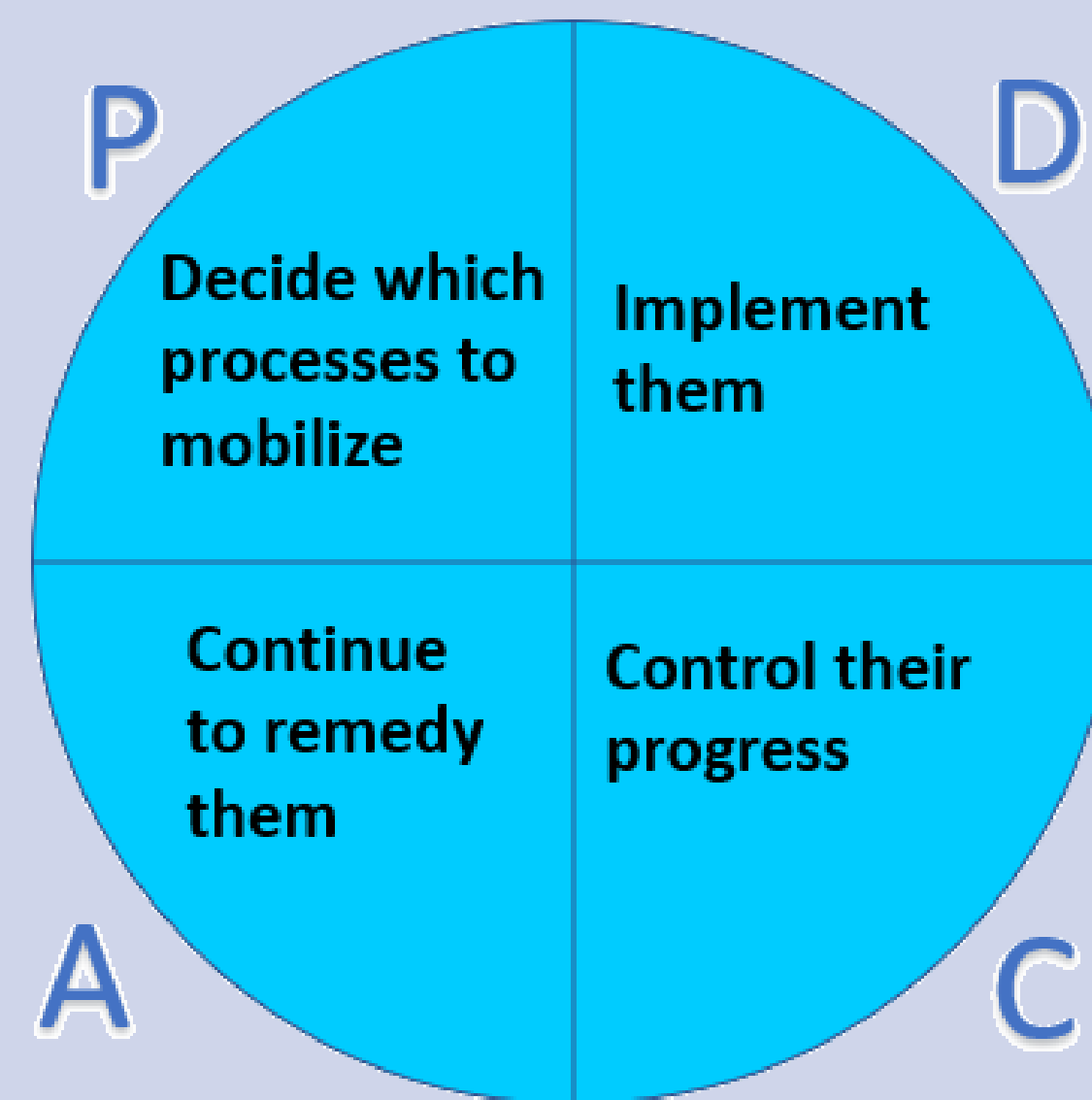


A personal development (UE) unit is devoted to a combat activity: kendo



Beyond the practice of sports, students are brought to analyze an activity by being "immersed" in an unknown environment.

The interest of combat sports lies in the fact that the combat can be assimilated to a whole and whole and complex system for which the fighter will have to set himself one or several objectives (political, strategic).



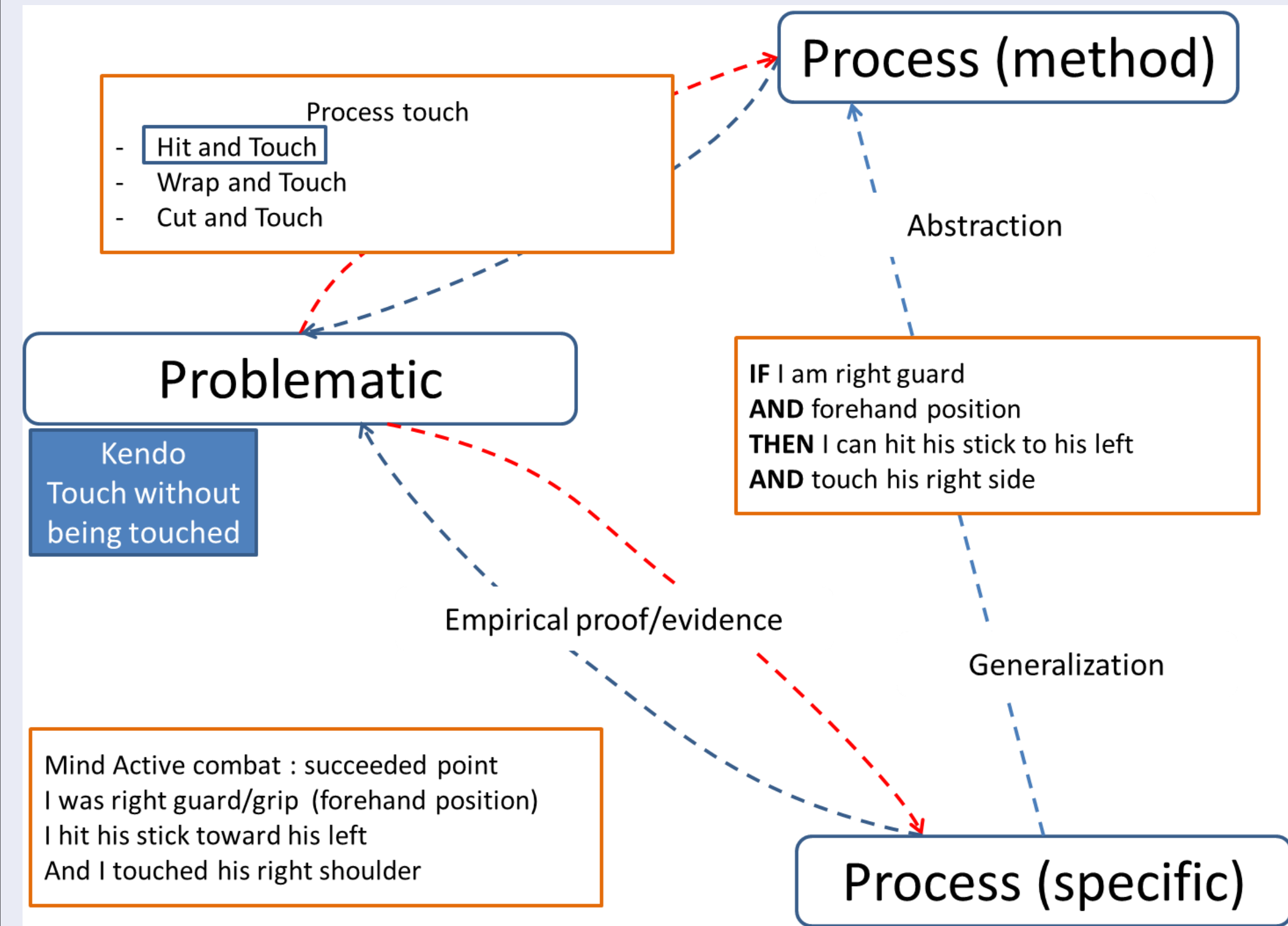
The teaching of Kendo follows the dynamics of APP, the objectives are to learn and understand. We find the Deming wheel (PDCA) but robotics also proposes the OODA loop (observe, orient, decide, act).

Better practice, better sharing, better understanding

- This tryptic is found in the combat with memory. During the combat, the aim is to "remember" the hits made (the learners are focused on the task at hand and not on the result). When one combatant has made the same hit twice, he interrupts the combat, shows the hit to the other combatant and then teaches her/him the hit:

Take a point, then give her/him back to understand.

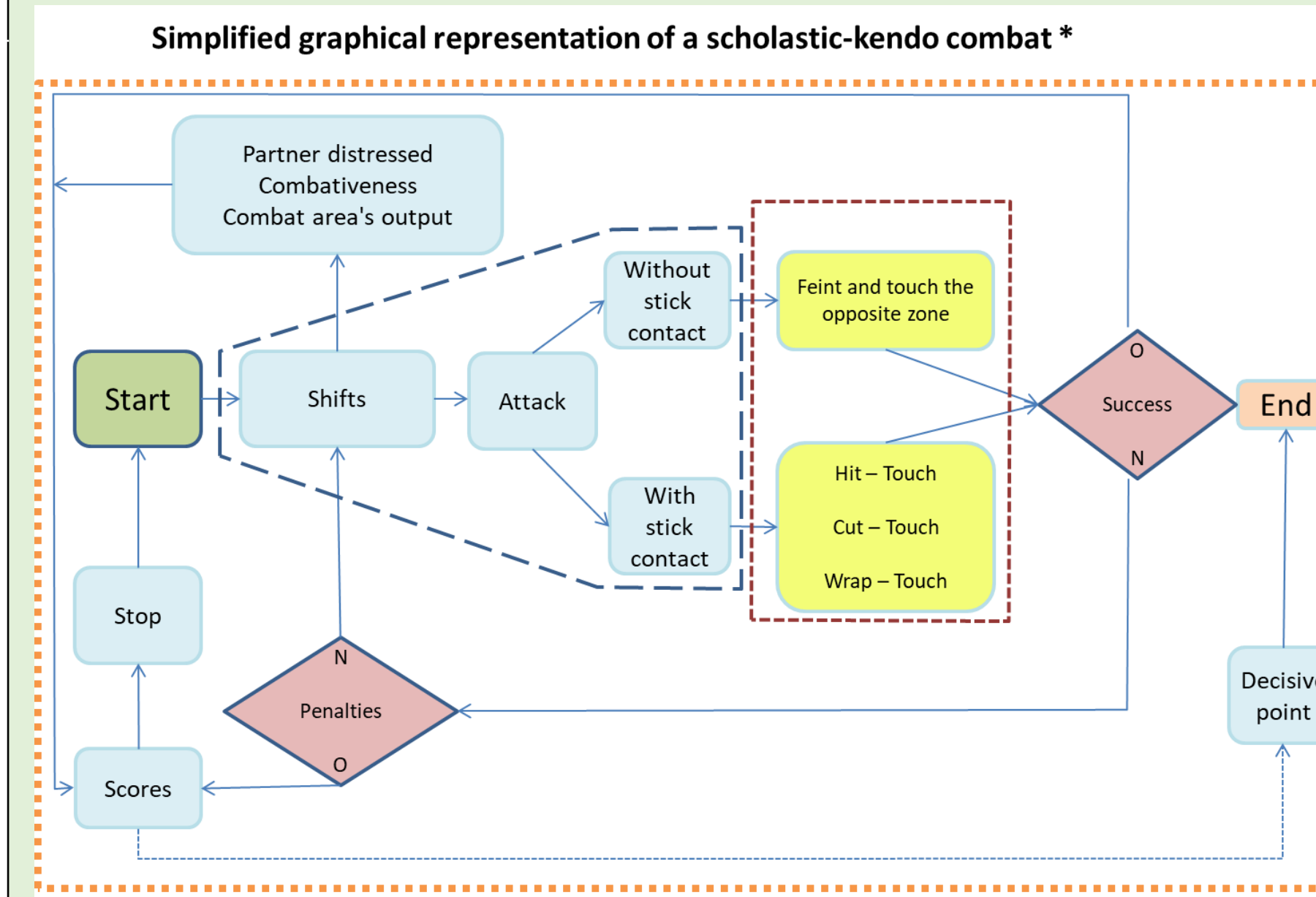
- The aim of the combat with memory is to be able to show the class what was found by a couple



Satisfaction surveys show that 85% of students are satisfied or very satisfied with this U.E.

Digital innovation(s): from global understanding to digital modeling

Build the flowchart in a global way



Making a flowchart from actions or from the observation of actions is a professional skill required from students

Write the production rules from the binary flowchart then use the "consultation" mode in the expertsystem

```
# Knowledge base of expert system kendo fencing organisation

rule(1)
début=non
then
interruption_du_combat=le_combat_n'a_pas_encore_commencé
fin_du_combat=le_combat_n'a_pas_encore_commencé;

rule(10)
début=oui
actions_et_déplacements=sortie_aire_combat
then
interruption_du_combat=oui;

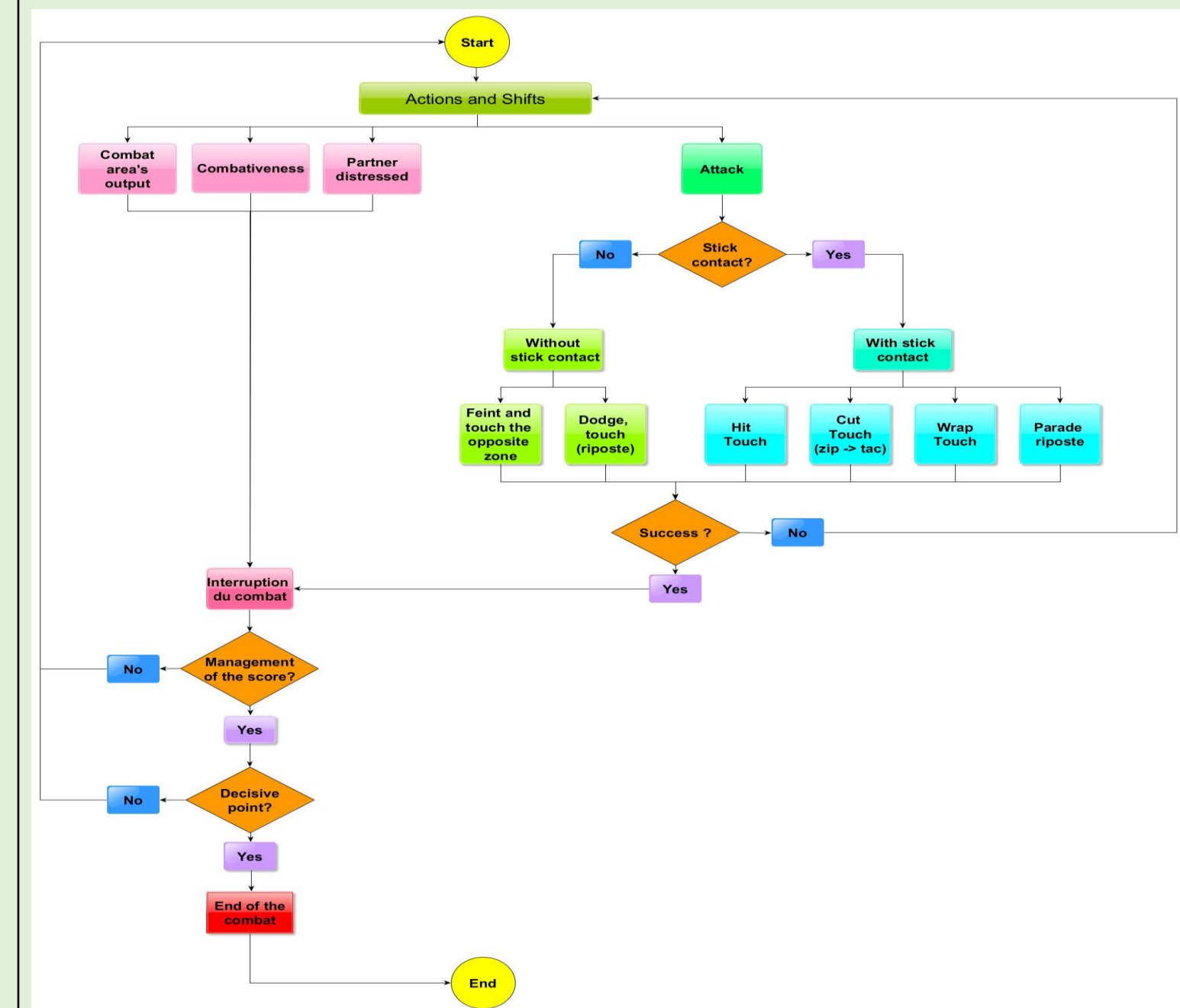
rule(11)
début=oui
actions_et_déplacements=non_combativité
then
interruption_du_combat=oui;

rule(12)
début=oui
actions_et_déplacements=un_combattant_en_difficulté
then
interruption_du_combat=oui;

rule(15)
début=oui
actions_et_déplacements=attaque
contact_armes=non
then
attaque=sans_contact_des_armes;

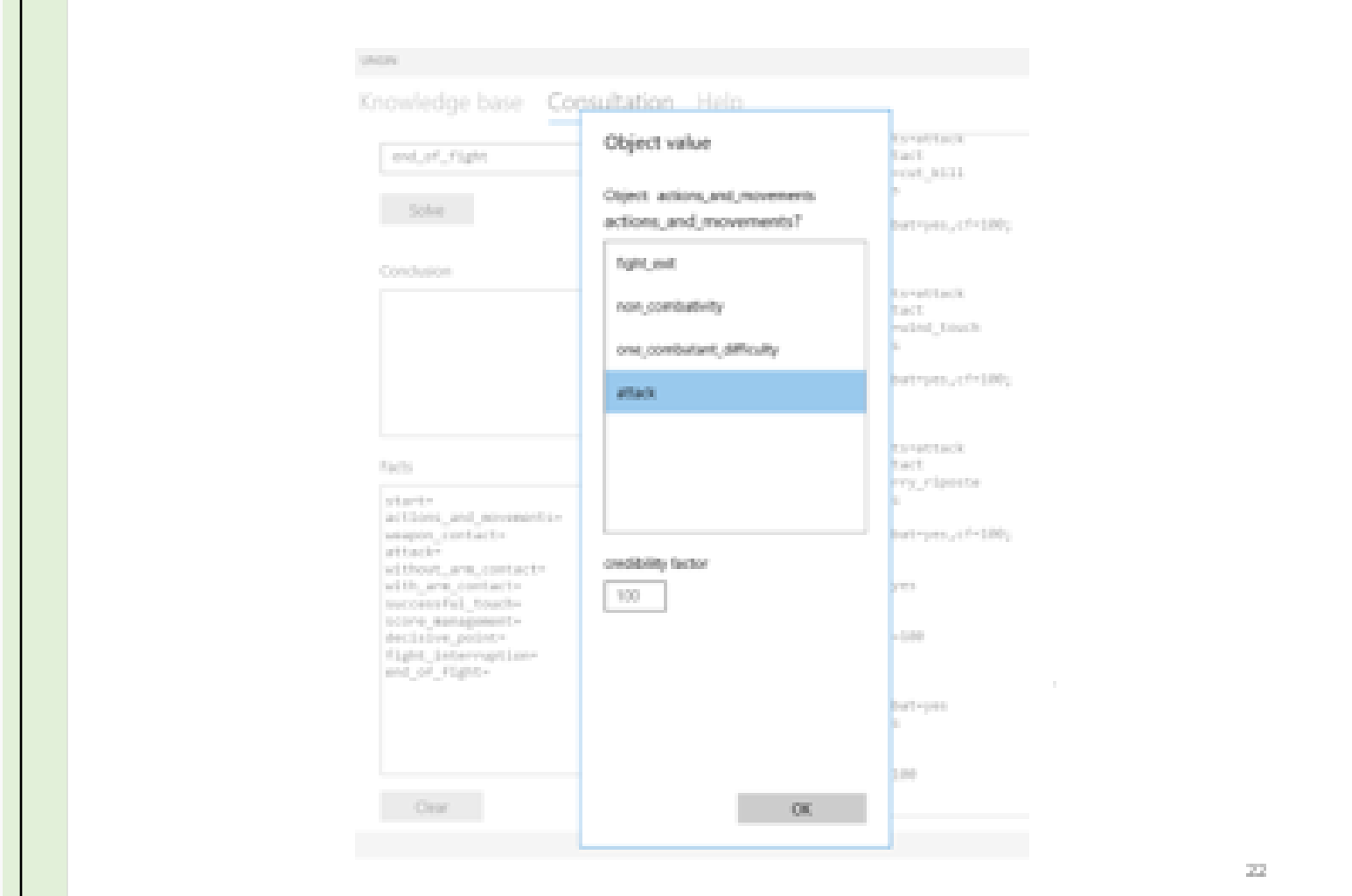
rule(16)
début=oui
actions_et_déplacements=attaque
contact_armes=oui
then
attaque=avec_contact_des_armes;
```

Write this flowchart in binary form

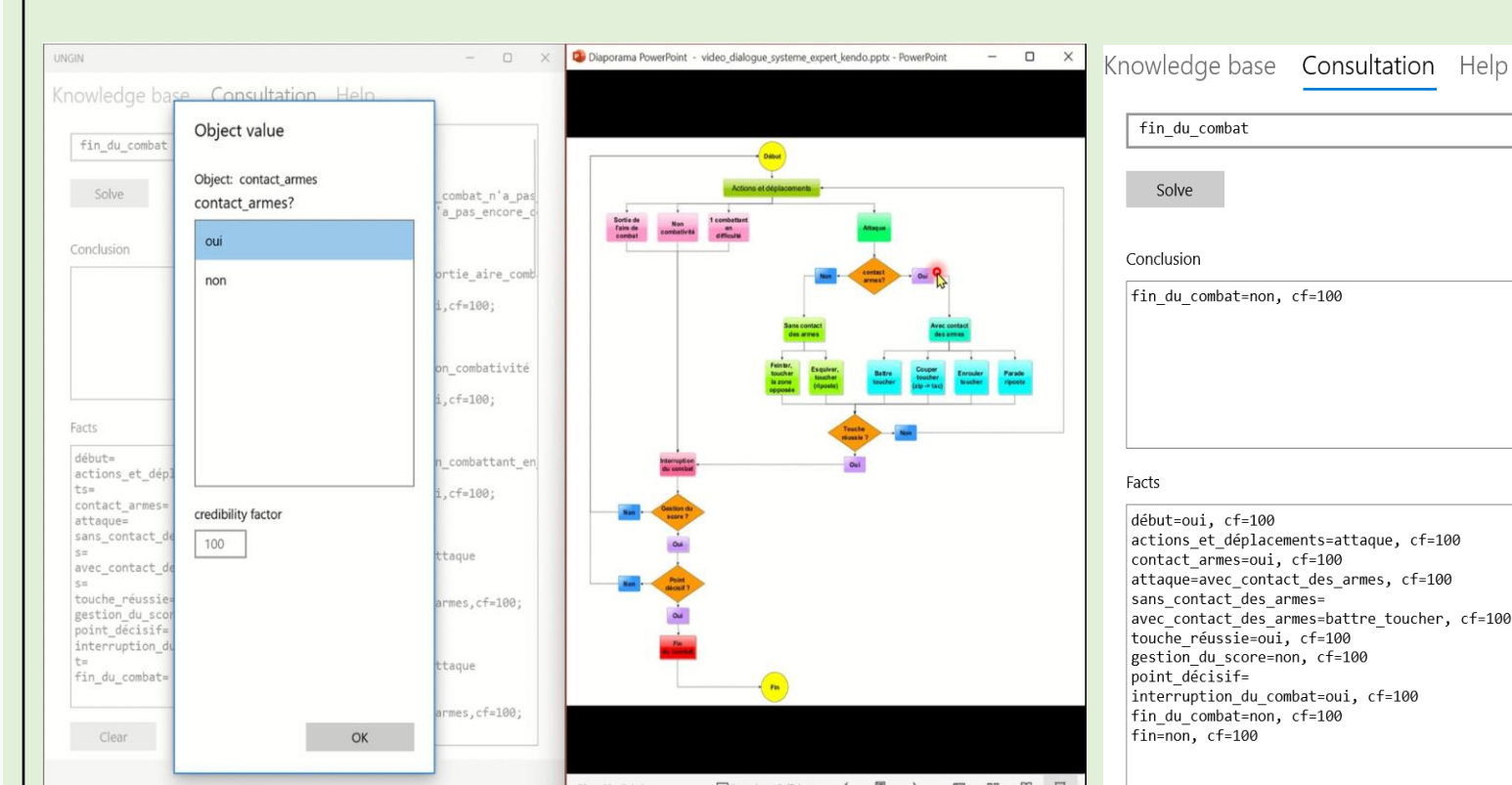


expert system (SE) <-> user (Ut) watch the video

SE: Is there any action or movement?
Ut: There is an attack



SE: Did the weapons come into contact?
Ut: Yes



The verification of the rules, the flowchart and the facts validated during the "consultation" become complementary to the "learning and understanding".

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