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Development of clinical skills of speech-language pathology students through a training program including a peer review process

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CONTEXT

French **university training in speech and language pathology** (SLP)

- 5 years (Master degree)
- Requires students to **demonstrate appropriate clinical skills**, to validate a **certificate of clinical competence** (CCC) during the final academic year (5th year)

Clinical skills development in health students [1]

- In **5 steps**:
 - Defining the skills
 - Providing **critical elements** of the skills
 - Providing **examples** of the skills
 - Practicing** the skills in contexts
 - Providing feedback and reinforcement** by evaluating students using summative assessment

Relevance of peer review process in the French program [2]

- Develop metacognitive analysis** [3] about clinical skills or behaviors
- Positive predictor** of student academic **achievement** [4]

OBJECTIVE

To carry out a pilot study measuring the contribution of a training program including a peer review process in the development of clinical skills of SLP students in their final training year.

MATERIAL AND METHODS

Students

- Recruited during 2 academic years (September 2021 – June 2022 ; September 2022 – June 2023)
- All SLP students** were involved in the training program during their final year

Skills definition

- 19 skills** according to (1) the **French national training framework** and (2) a **panel of 3 educational SLP trainers**
- About: clinical approach (context, SLP diagnosis, relevance of intervention, cooperation with other professionals), therapeutical skills and adaptation to the patient, analysis of practice
- Evaluation grid** [5]: all items were assessed in a **Likert-like scale** (0-1: lower than expected with 0=very poor, 1=poor ; 2: expected as acceptable ; 3-4: better than expected with 3=good, 4=very good)
- Calculation of a passing rate** according to the mean calculated on the scores of the 19 items (if equal or above 2 = PASS ; otherwise = FAIL)

Critical elements and examples during tutorial classes

Practicing the skills in context, in 3 steps with a detailed **feedback** provided to the students after each step (→)

Statistical analyses

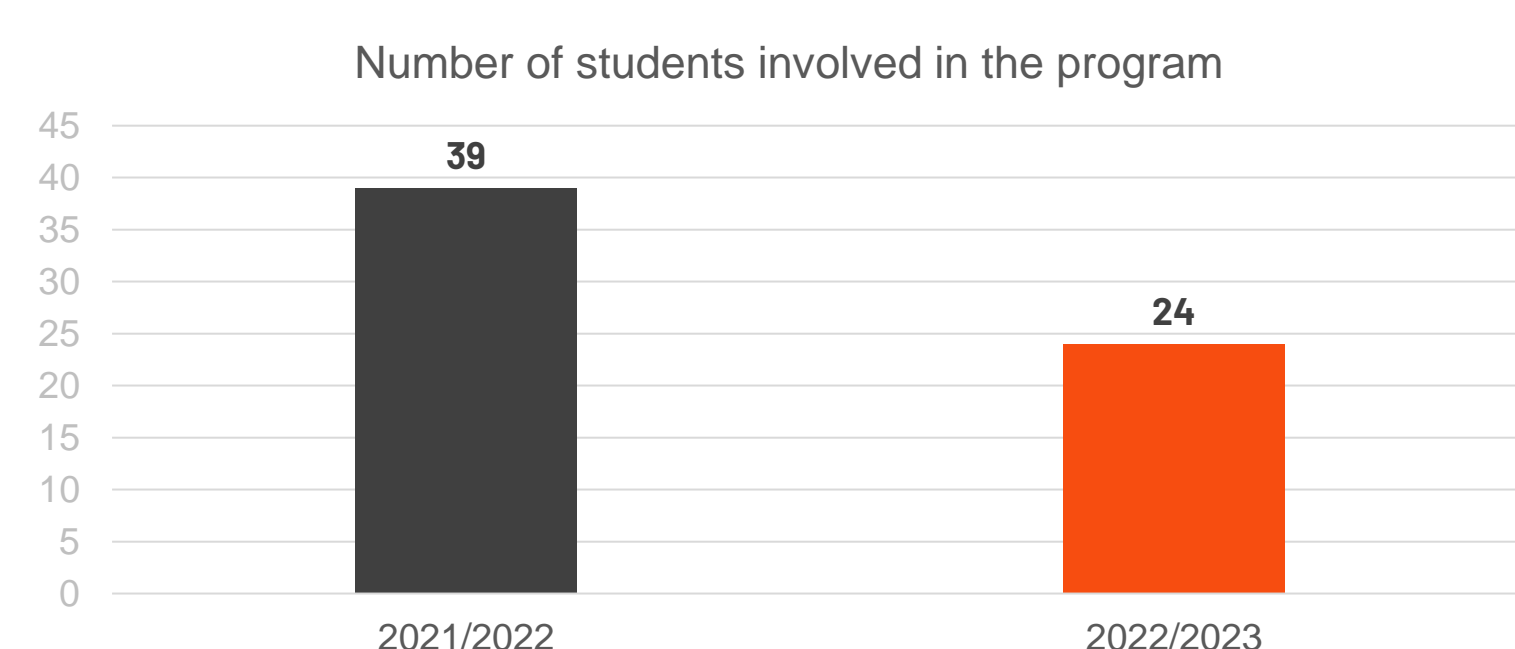
- Passing rate** for each academic year, at each step
- Bonus and malus** points obtained as a **peer evaluator** (step 1. KC)
- Subjective assessment** of the pedagogical implications of the program **by the students** (at the end)

Step	Code	Description	Time	Reviewers	Result and feedback
1	KC	Known clinical case analysis – oral presentation	October	Professional jury (2 clinician SLPs)	PASS/FAIL result
				Peer jury (students)	Bonus/malus system <i>if the mean is close or far from the mean of the professional jury</i>
2	WA	Written case analysis	December	Educational trainers (2 SLPs)	PASS/FAIL result
3	UC	Unknown clinical case analysis – oral presentation	April	Professional jury (2 SLPs and/or educational trainers)	PASS/FAIL result

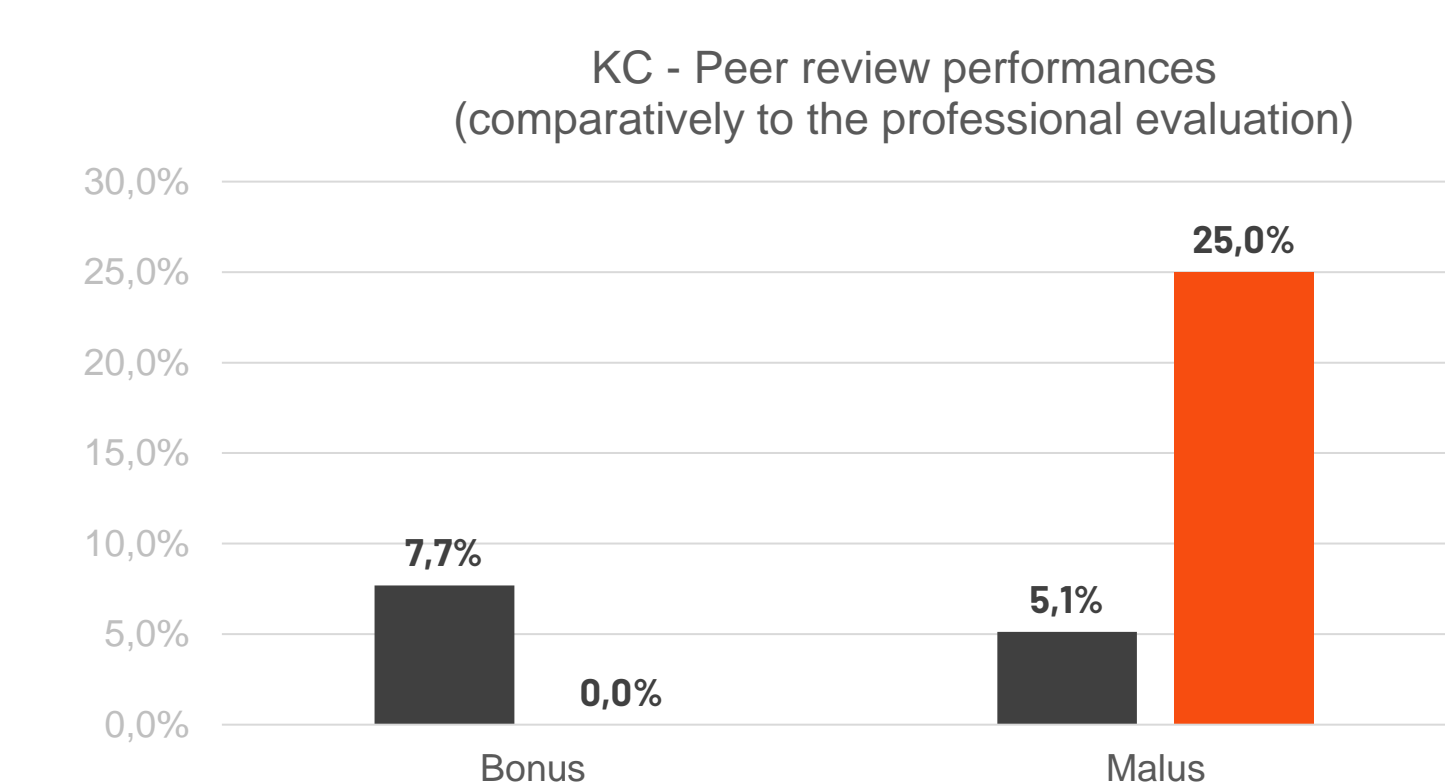
RESULTS

1 Number of students involved in the program, by academic year

- All students** in their 5th year of SLP training participated

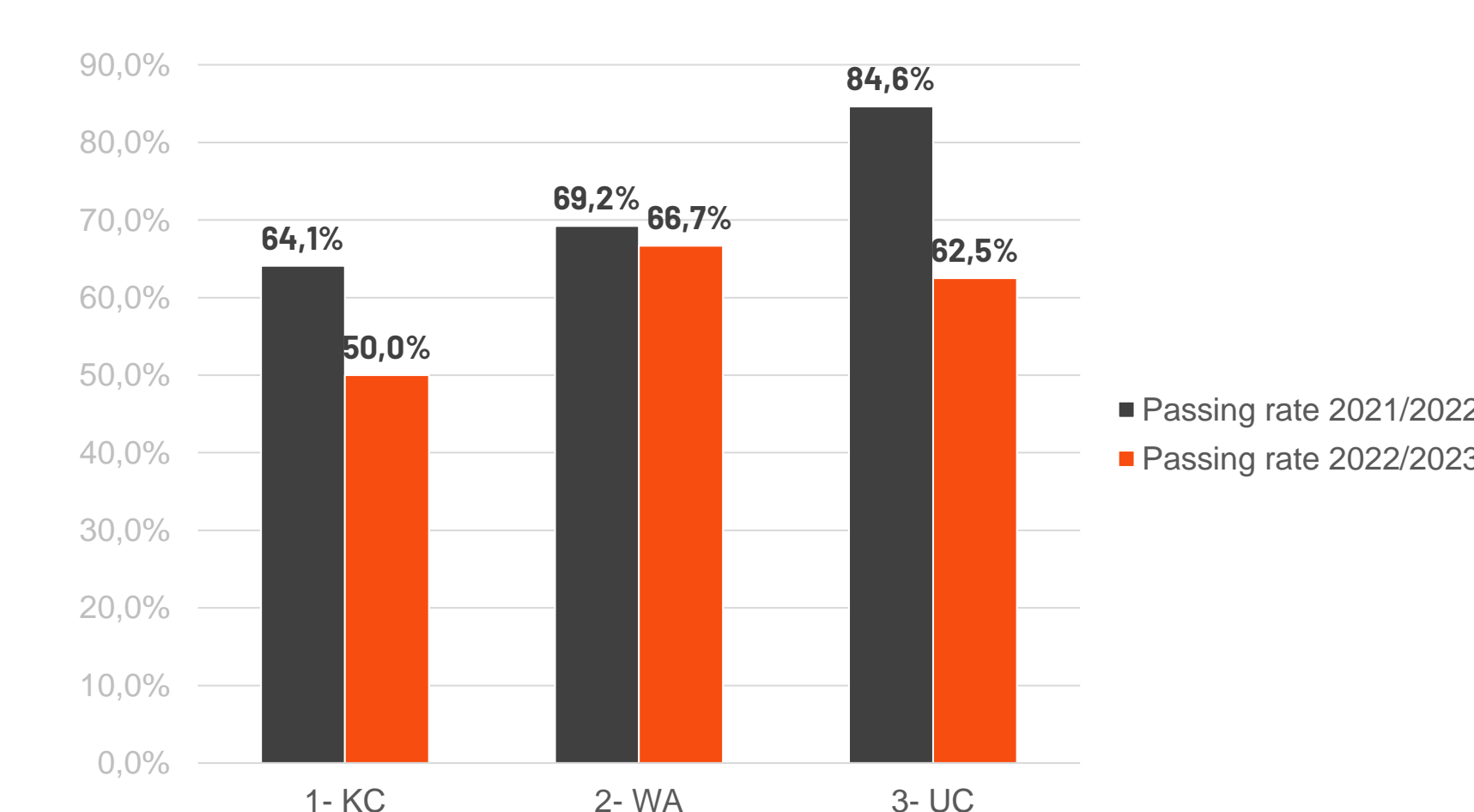


2 Peer review assessment during the first step (KC) – Bonus/malus results



- Best performance in 2021/2022: bonus rate > malus rate
- Numerous malus in 2022/2023 due to **systematical overestimation** by the peer evaluators

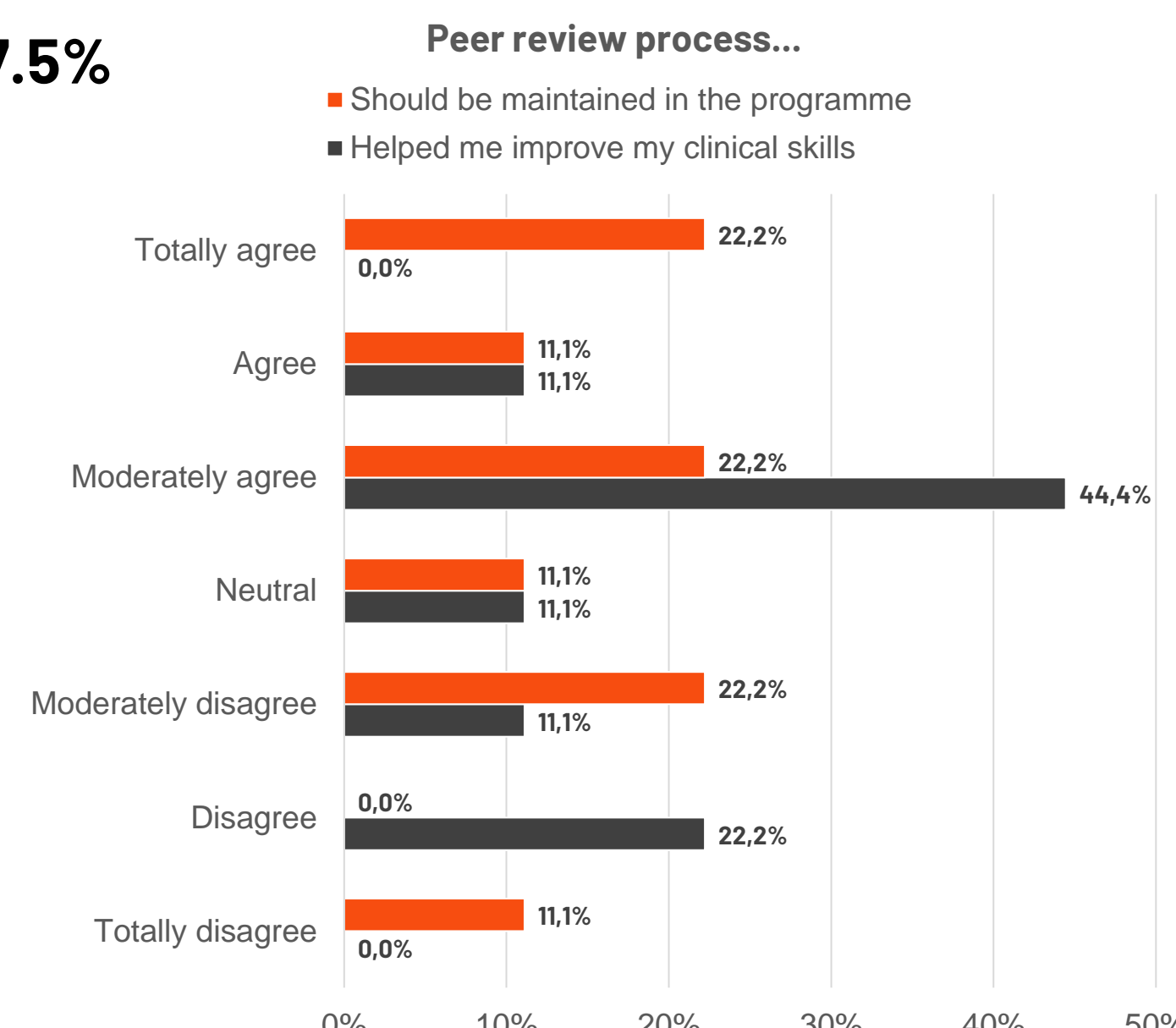
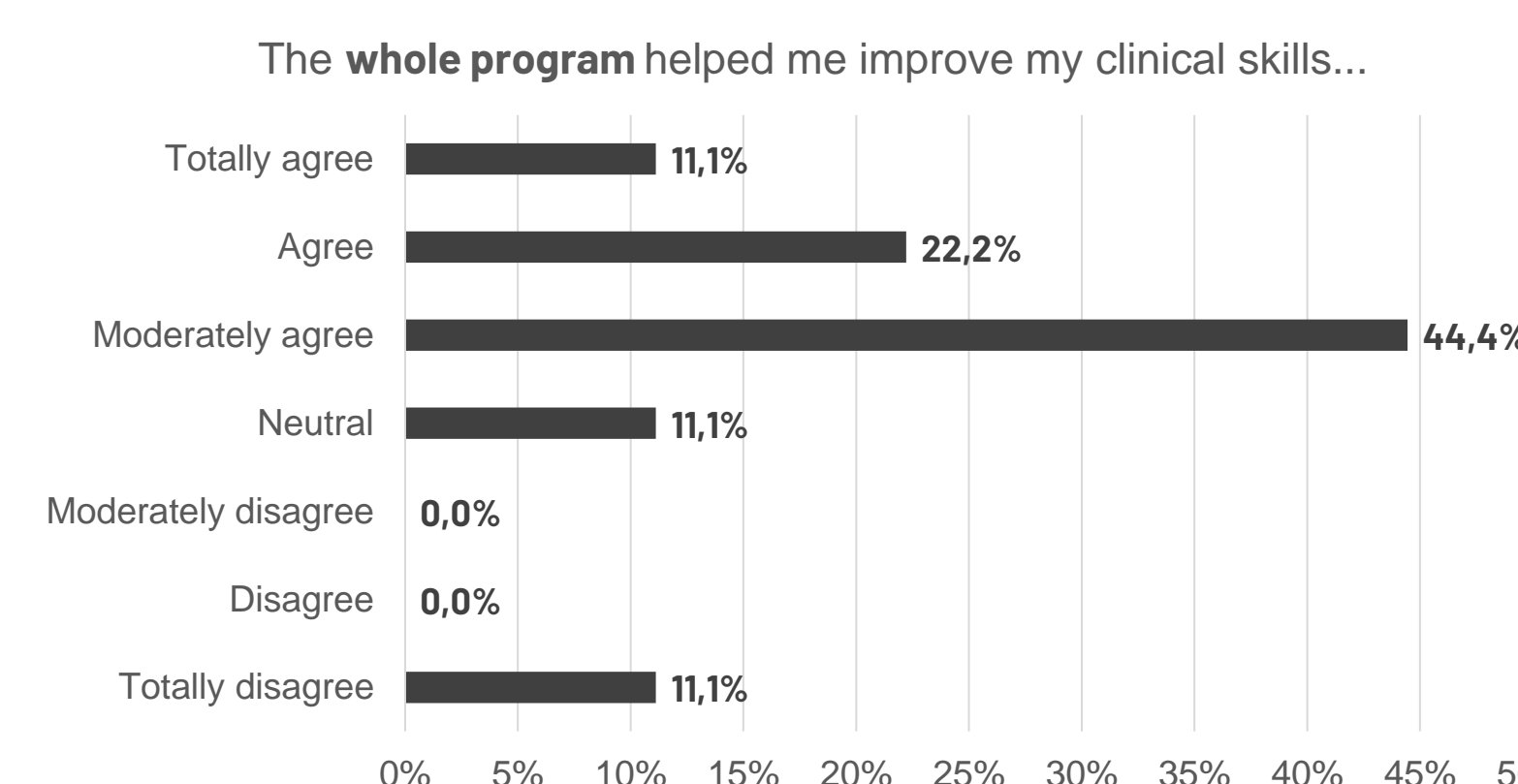
3 Evolution of the passing rate



- Progression of passing rates** through the program stages
- In 2021/2022: very high final success rate
- Lower performance in 2022/2023, consistent with the difficulties of evaluation observed in the peer review

4 Subjective assessment of the pedagogical construction by the students

- 9 responses in 2022/2023: **response rate = 37.5%**
- High satisfaction rate**: program (77.7%), peer-review process (55.5%)



DISCUSSION

The implementation of a clinical skills development program including a **peer review process** is **promising**, improving student achievement in the final academic year.

Place of peer assessment in the process

- Persistent difficulties** reported by students on quantitative evaluation
- Needs: providing more examples of clinical skills, practicing without evaluation context

Perspectives

- Inclusion in a more global pedagogical process developed as a **skills-based approach** (clinical and theoretical skills)
- Development of **new peer-to-peer clinical analysis** with students and trainers
- Development of face-to-face or virtual **simulations** in the program [6,7]

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