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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

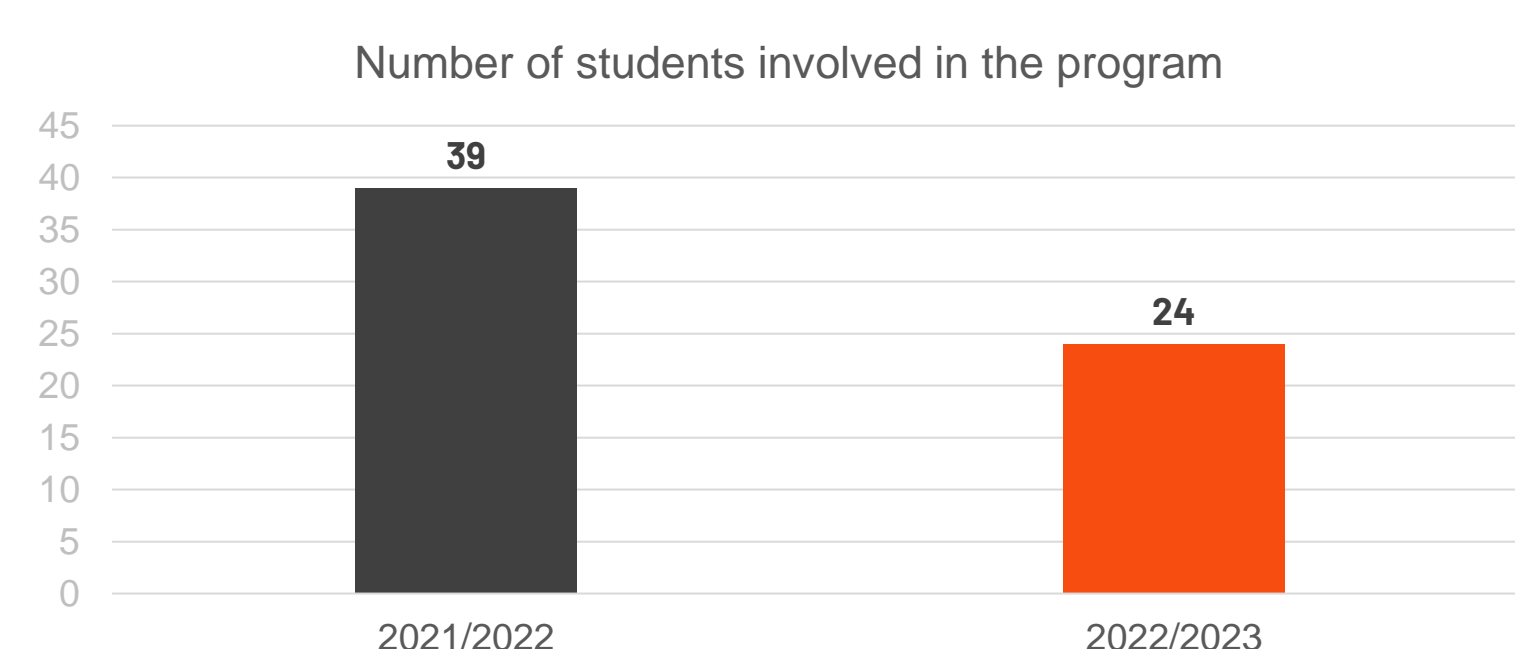
- Passing rate for each academic year, at each step
- Bonus and malus points obtained as a peer evaluator (step 1. KC)
- Subjective assessment of the pedagogical implications of the program by the students (at the end)

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 if the mean is close or far from the mean of the professional jury
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

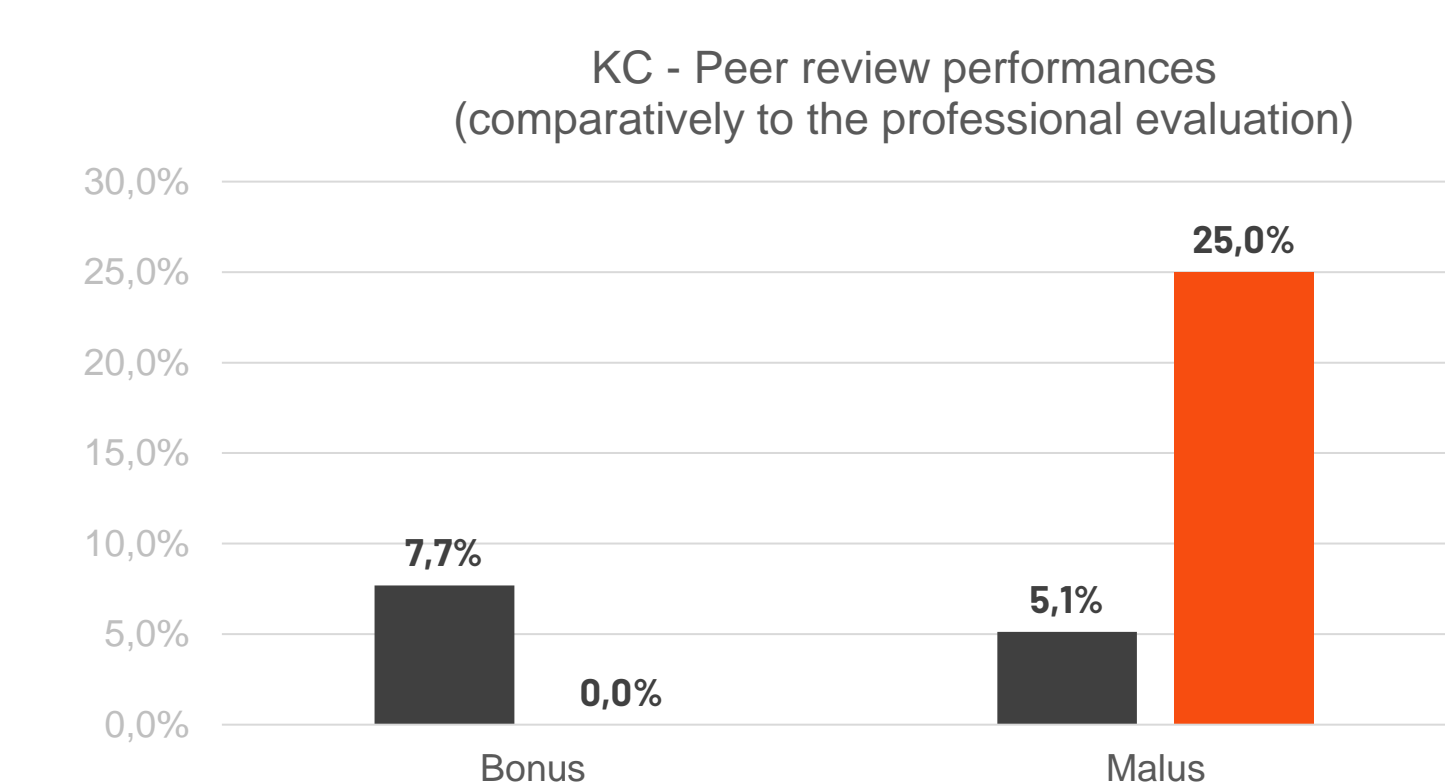
## RESULTS

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

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

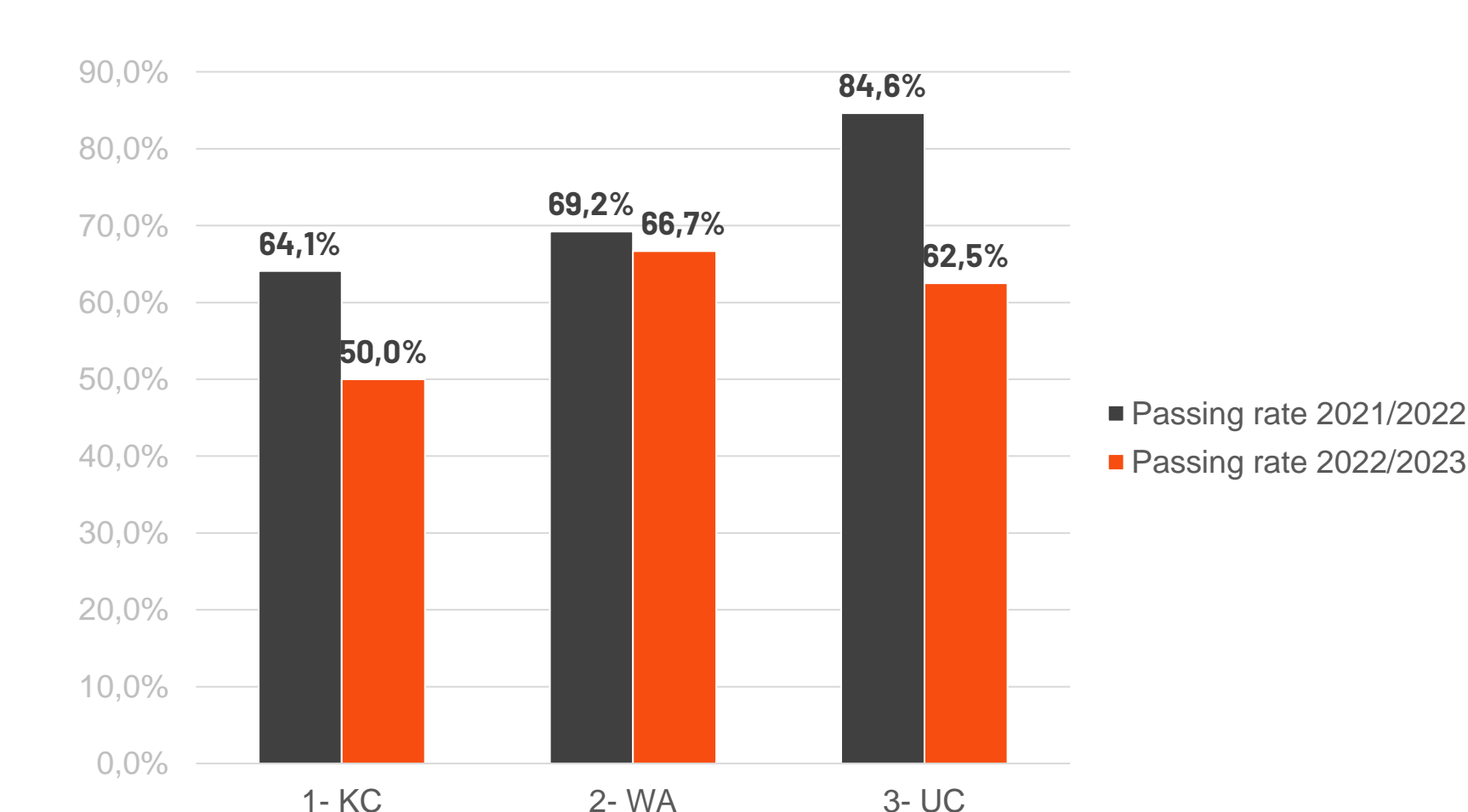


### 2 Peer review assessment during the first step (KC) – Bonus/malus results



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

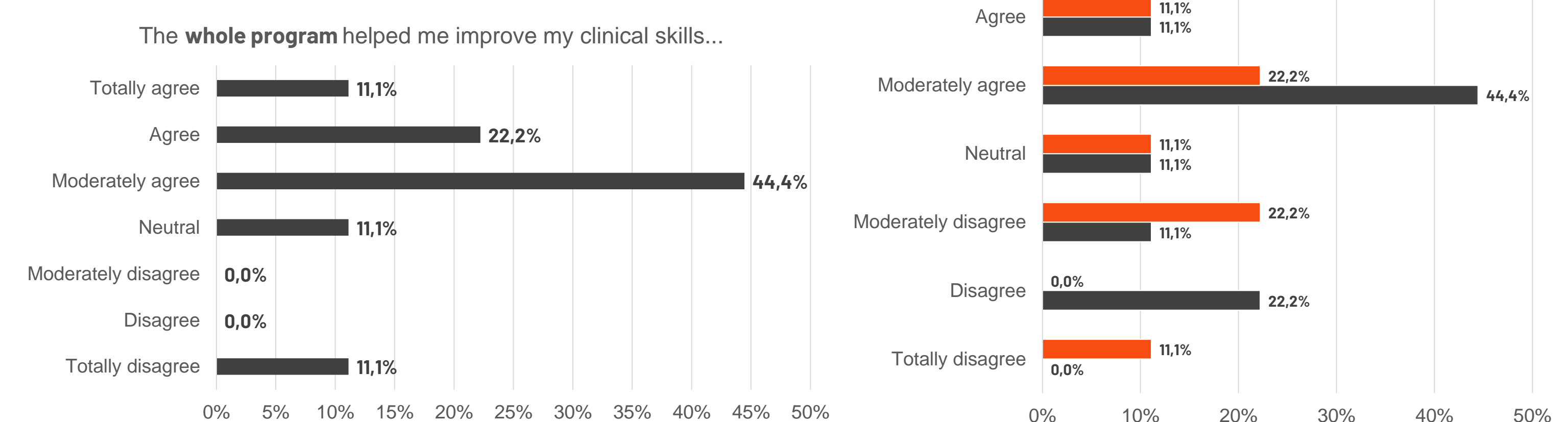
### 3 Evolution of the passing rate



- 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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