



Task adaptations as a function of content knowledge

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Belgium: Some



Audi

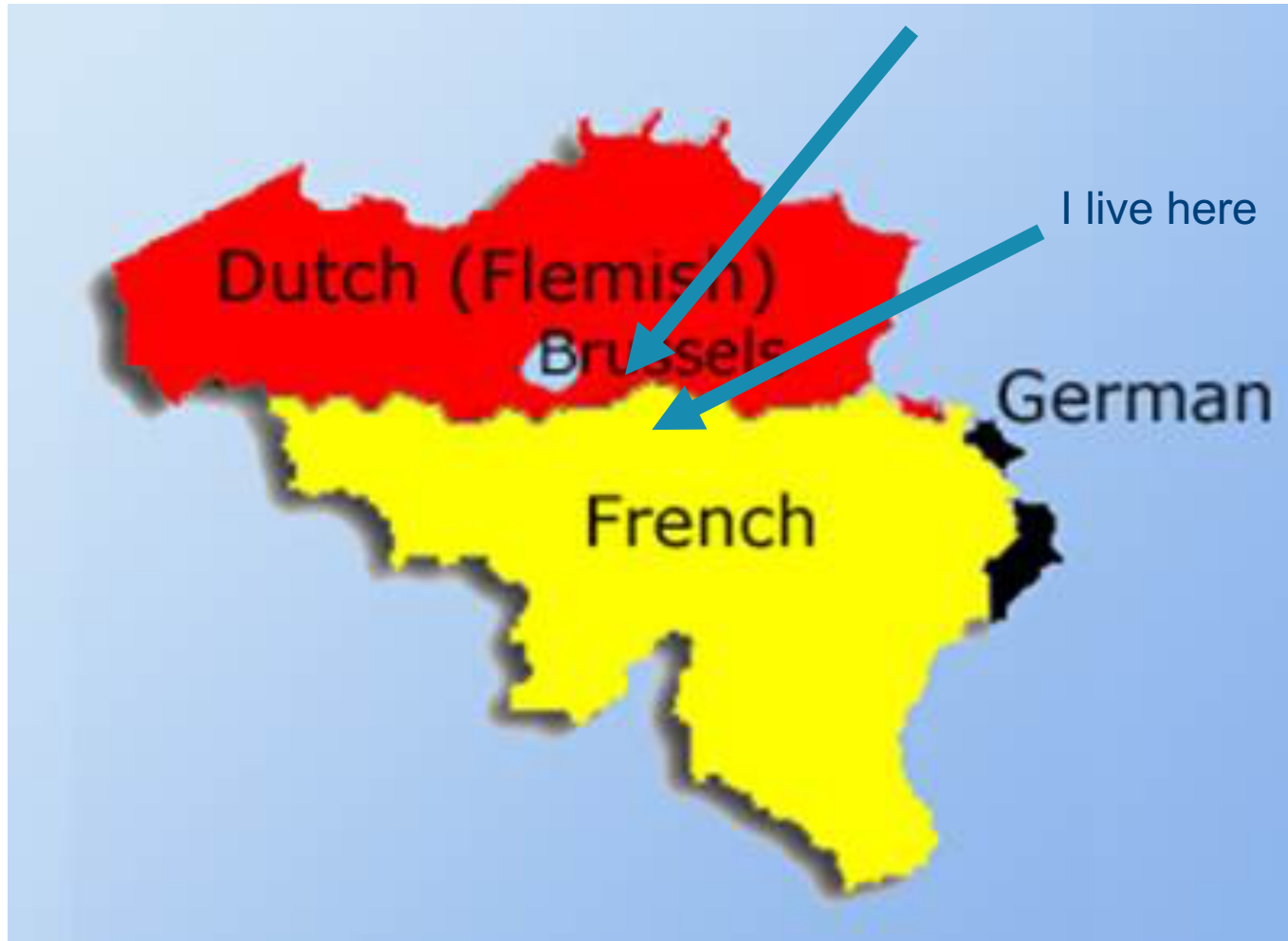


PORSCHE



Three communities

KU Leuven



KU Leuven - Belgium

- Founded in 1425



KU Leuven - Belgium

- 50 700 students



KU Leuven - Belgium

Faculty of Movement and Rehabilitation Sciences



An introductory task

Leg kick crawl, arms extended and fixed against body, one shoulder pointing pool floor, eyes on pool floor. Switch shoulders after 1 lap.

- Keep your body as straight as possible
- Your head is not moving

- Some children are not swimming in a straight line
- Other have no difficulty with the task and perform this too easily

How would you adapt the task for these children?

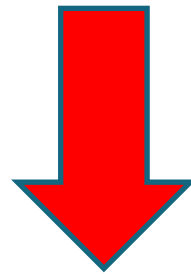


Task adaptations

Your adaptation of this task for some children reflects your
pedagogical content knowledge

Pedagogical Content Knowledge

Can be seen in the decisions a teacher makes in terms of content based on a number of knowledge bases



Content knowledge

Content knowledge in PE¹

Common content knowledge

- Knowledge of rules and etiquette
- Knowledge of technique and tactics

Specialised content knowledge

- Knowledge of task progressions
- Knowledge of common errors



Decisions based on content knowledge

Some children are not swimming in a straight line

Cause: their body is not in a straight position

Task adaptation: Try to imagine you are a torpedo and your head is not moving (refining)

Some children perform the task too easily without errors

Cause: You have been teaching effectively!

Task adaptation: Try the same but keep one arm in front of you. Switch arms after every lap (extending)

Task adaptations are contextual

Antecedent

Why does the teacher approach a student?

- Correct performance
- Incorrect performance
- Off task
- Other

Task adaptations are contextual

Antecedent	Behavior
<p data-bbox="137 439 614 539">Why does the teacher approach a student?</p> <ul data-bbox="137 611 653 825" style="list-style-type: none"><li data-bbox="137 611 620 654">• Correct performance<li data-bbox="137 668 653 711">• Incorrect performance<li data-bbox="137 725 343 768">• Off task<li data-bbox="137 782 297 825">• Other	<p data-bbox="697 439 1174 539">What adaptation does the teacher provide?</p> <ul data-bbox="697 611 981 882" style="list-style-type: none"><li data-bbox="697 611 981 654">• Extending<li data-bbox="697 668 942 711">• Refining<li data-bbox="697 725 948 768">• Applying<li data-bbox="697 782 967 825">• Restating<li data-bbox="697 839 884 882">• Other

Task adaptations are contextual

Antecedent	Behavior	Consequence
Why does the teacher approach a student? <ul style="list-style-type: none">• Correct performance• Incorrect performance• Off task• Other	What adaptation does the teacher provide? ² <ul style="list-style-type: none">• Extending• Refining• Applying• Restating• Other	How does the student respond? <ul style="list-style-type: none">• Correct performance• Incorrect performance• No opportunity to respond (NOTR)

An adaptation can be
APPROPRIATE: developmentally and in terms of student success
INAPPROPRIATE

Goals of the study — building on Ayvazo and Ward (2011)

- To investigate the effect of content knowledge on teachers' task adaptations in crawl swimming
 - What antecedents preceded task adaptations?
 - What adaptations were provided?
 - What was their consequence?



Methods

Teacher 1

Teacher 2

Teacher 3

Taught 8-10 lesson crawl unit (n=72 elementary children)
Live coding of task adaptations

**4 HOUR FACE TO FACE CCK + SCK
WORKSHOP**

Taught 8-10 lesson crawl unit (same children)
Live coding of task adaptations

Teacher coding – Live observation

- Coders went through training process
- 33% of sample was checked for reliability

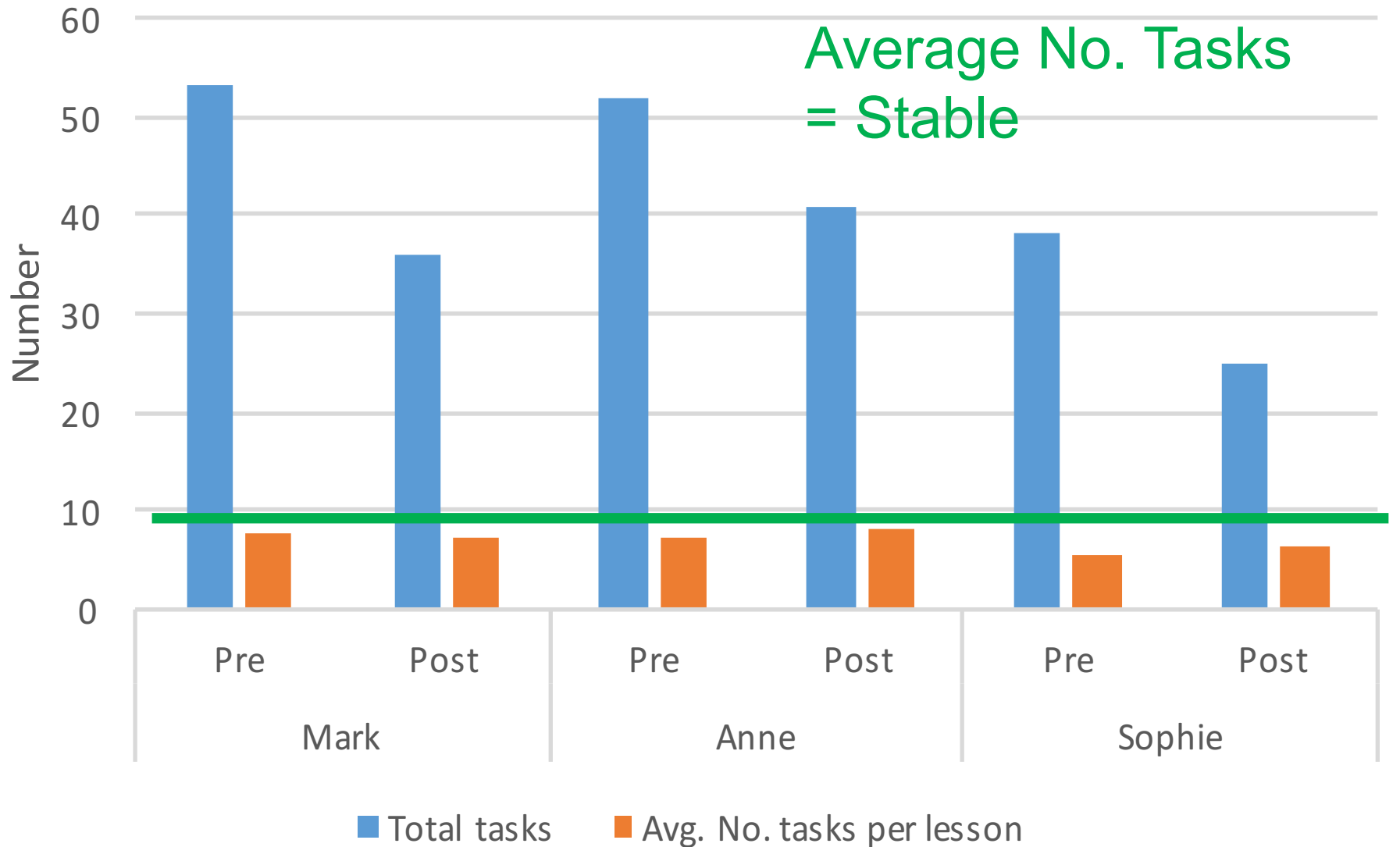


Content knowledge workshop

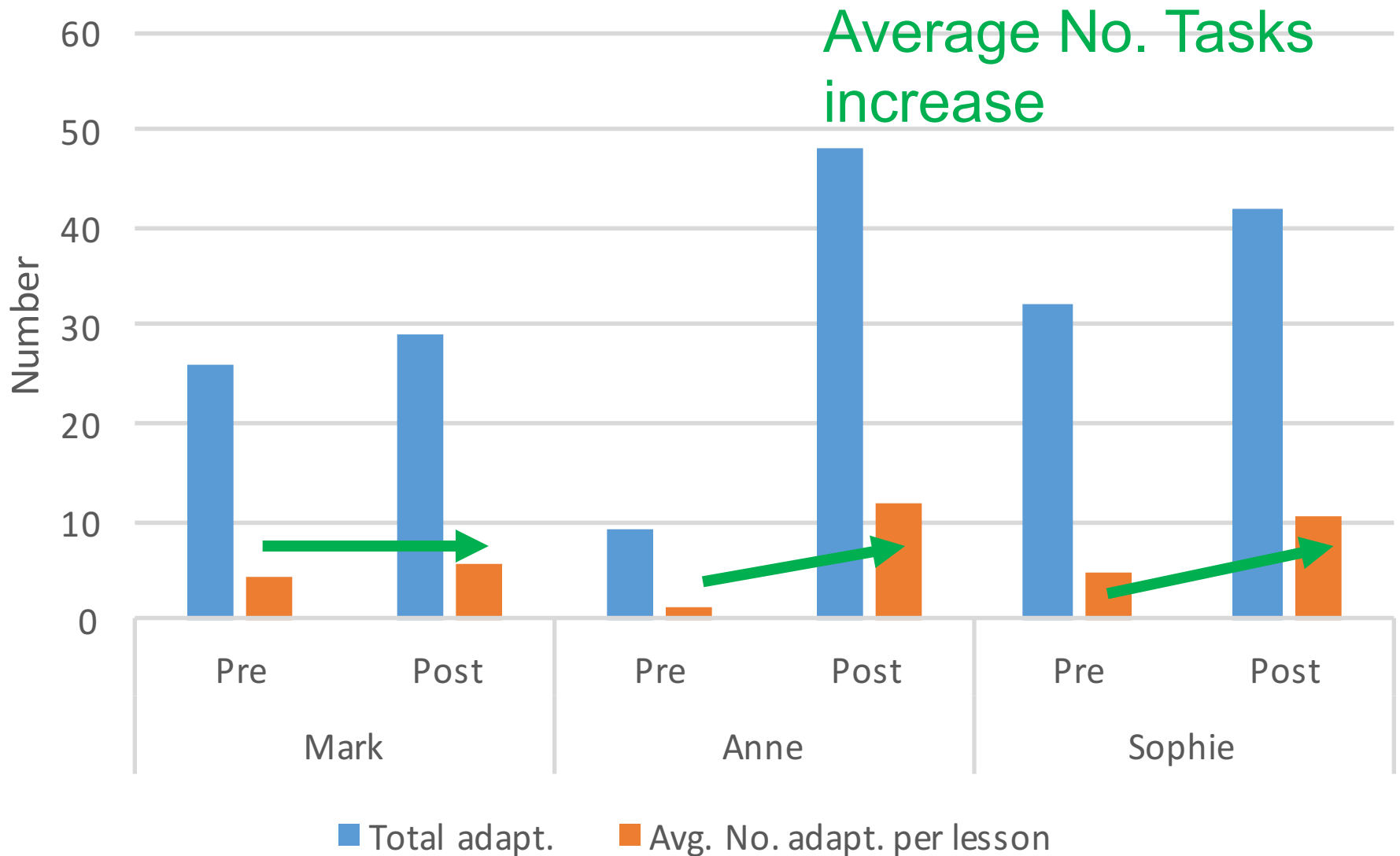
- 4 hours content knowledge workshop
 - 2 hours in swimming pool
 - Task progressions: swimming (CCK)
 - Task progressions: teaching (SCK)
 - 2 hours in classroom
 - Content development in crawl swimming
 - Rehearsal of error corrections



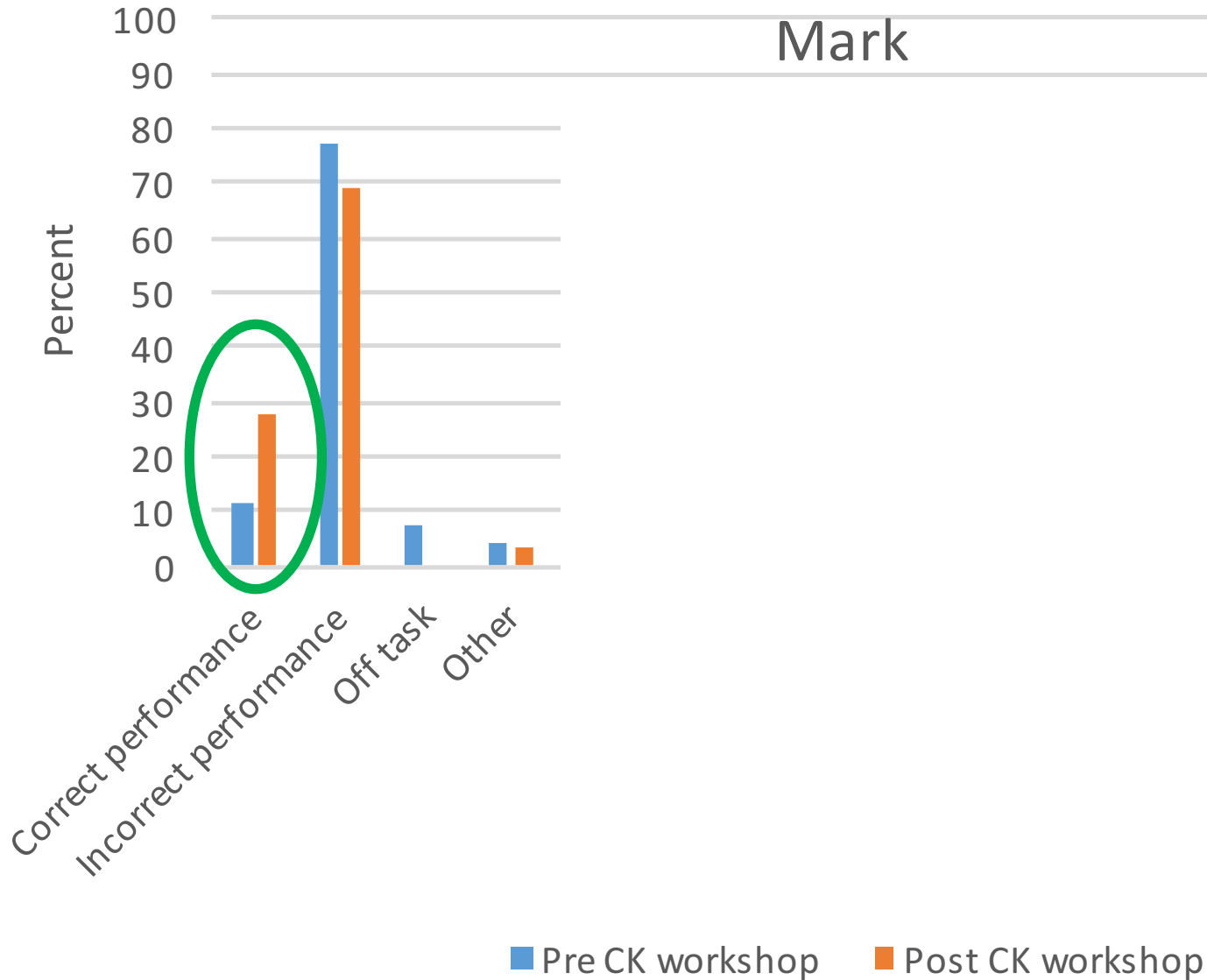
Inter task development



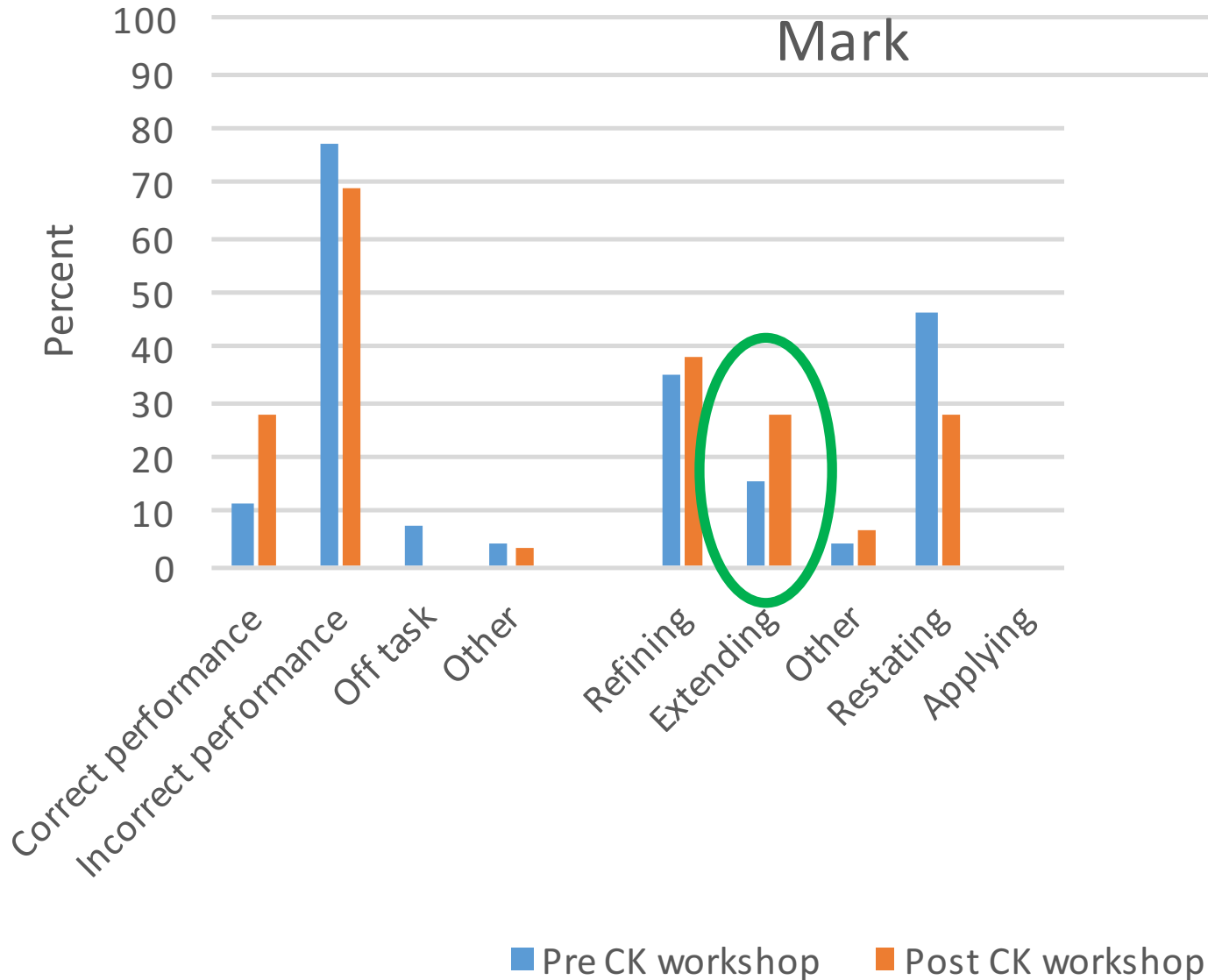
Intra task development (adaptations)



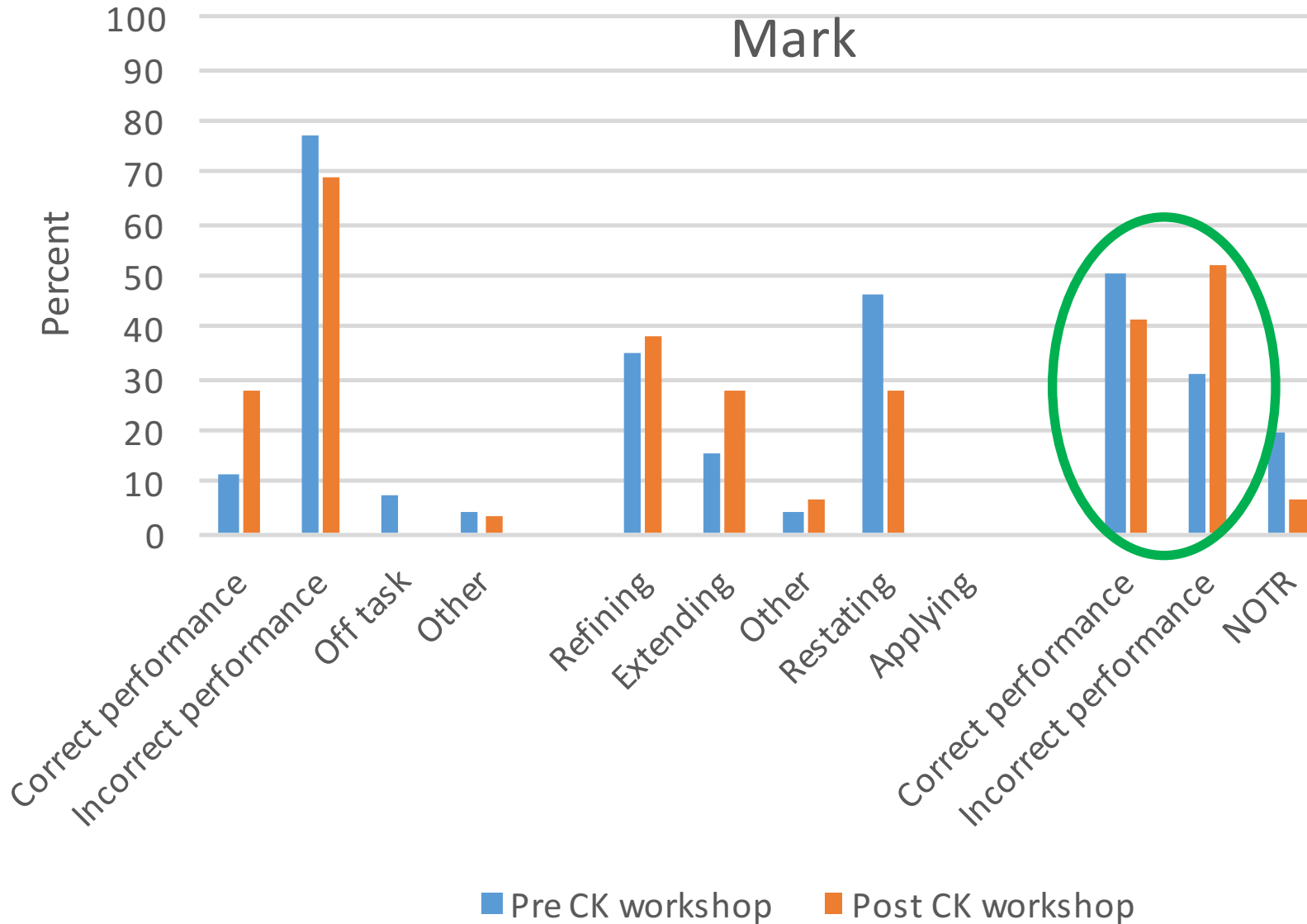
Functional analysis



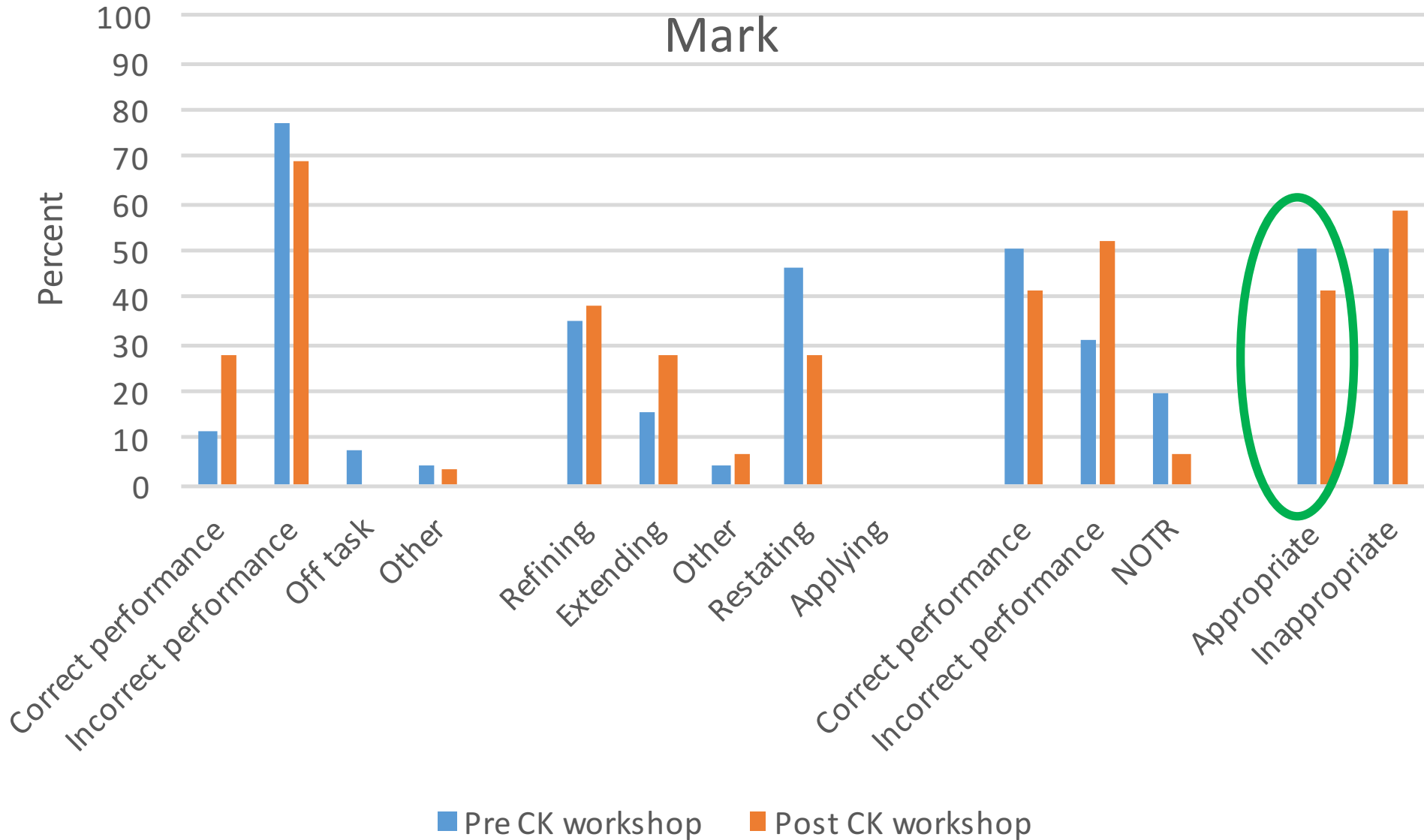
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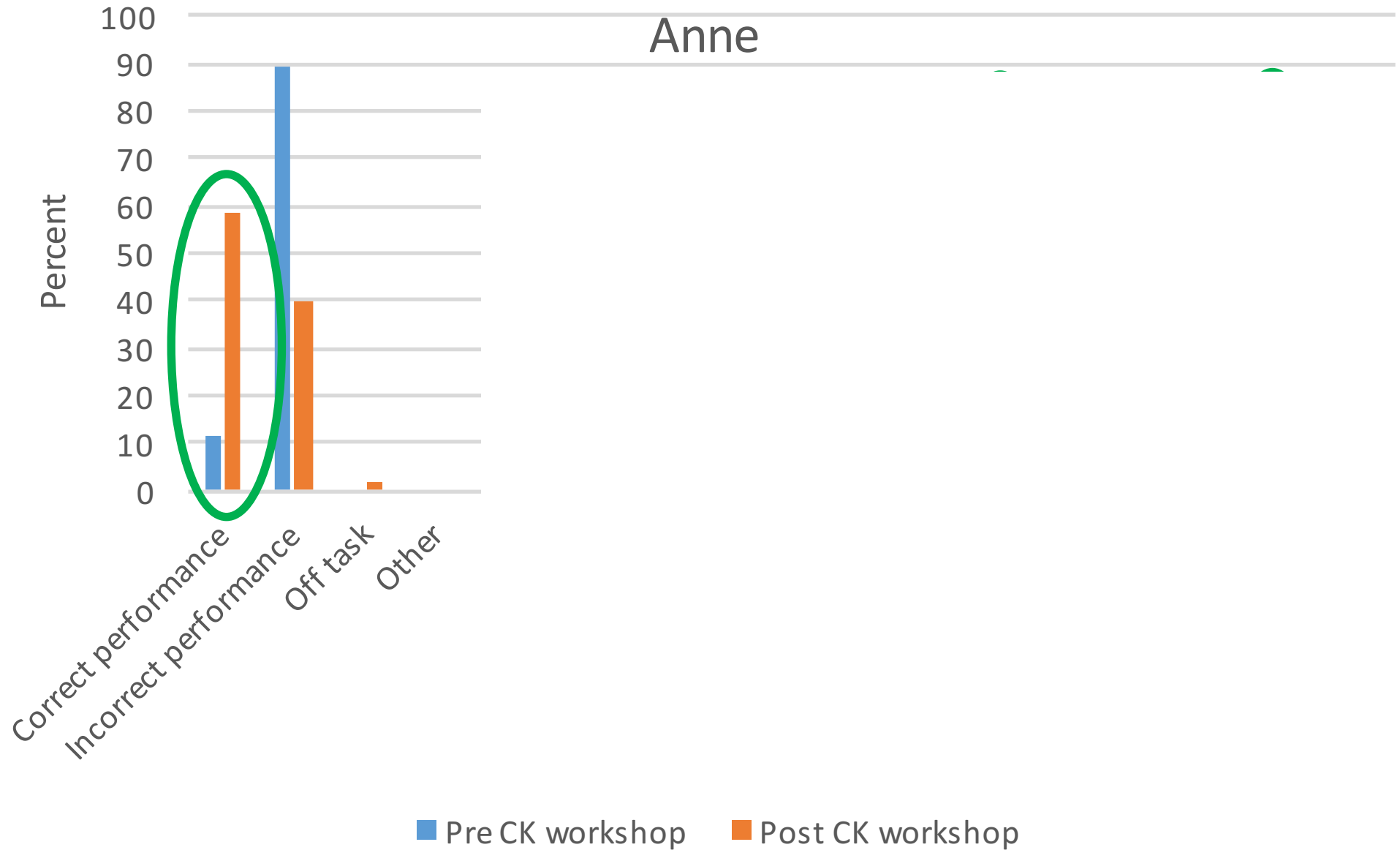
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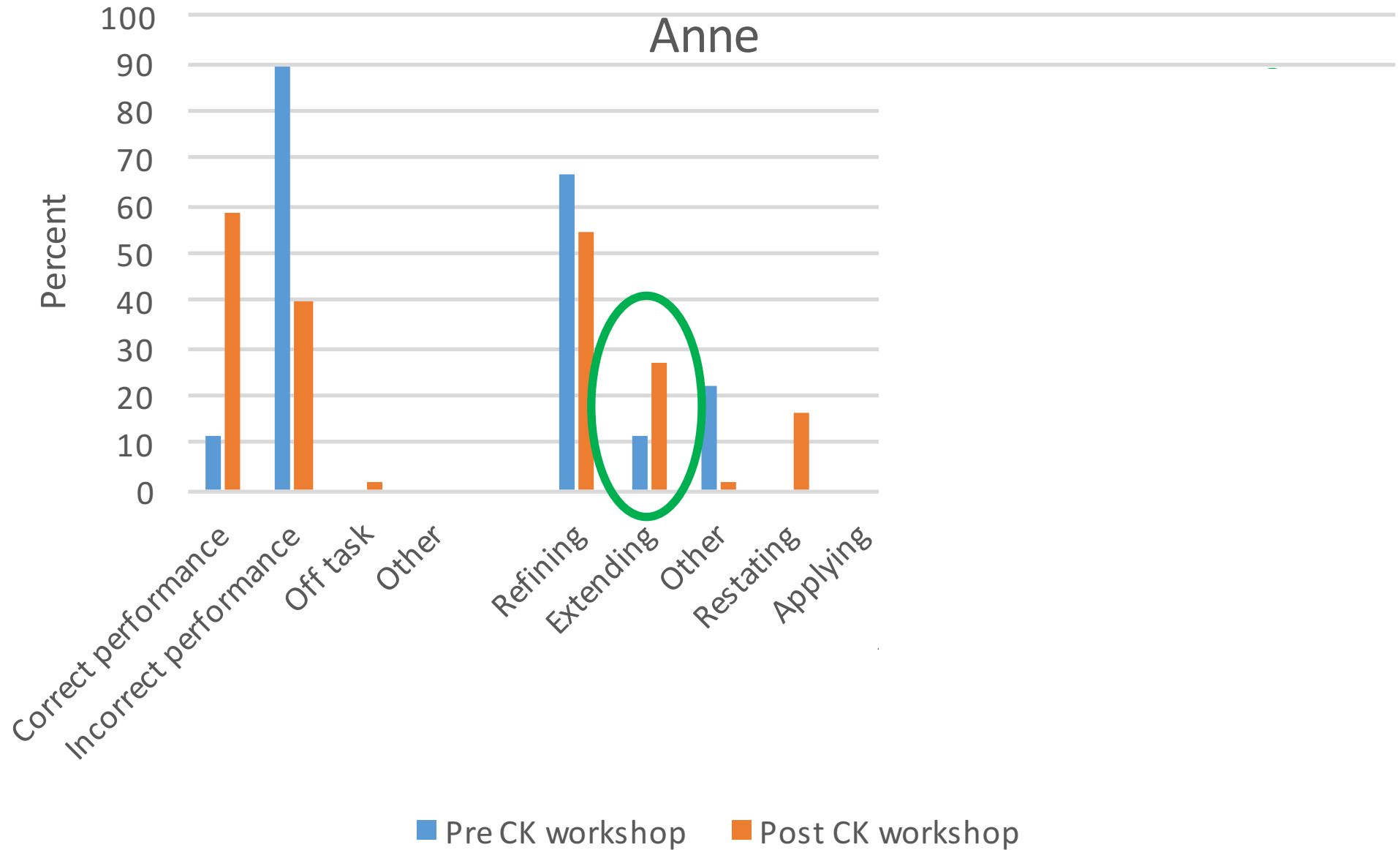
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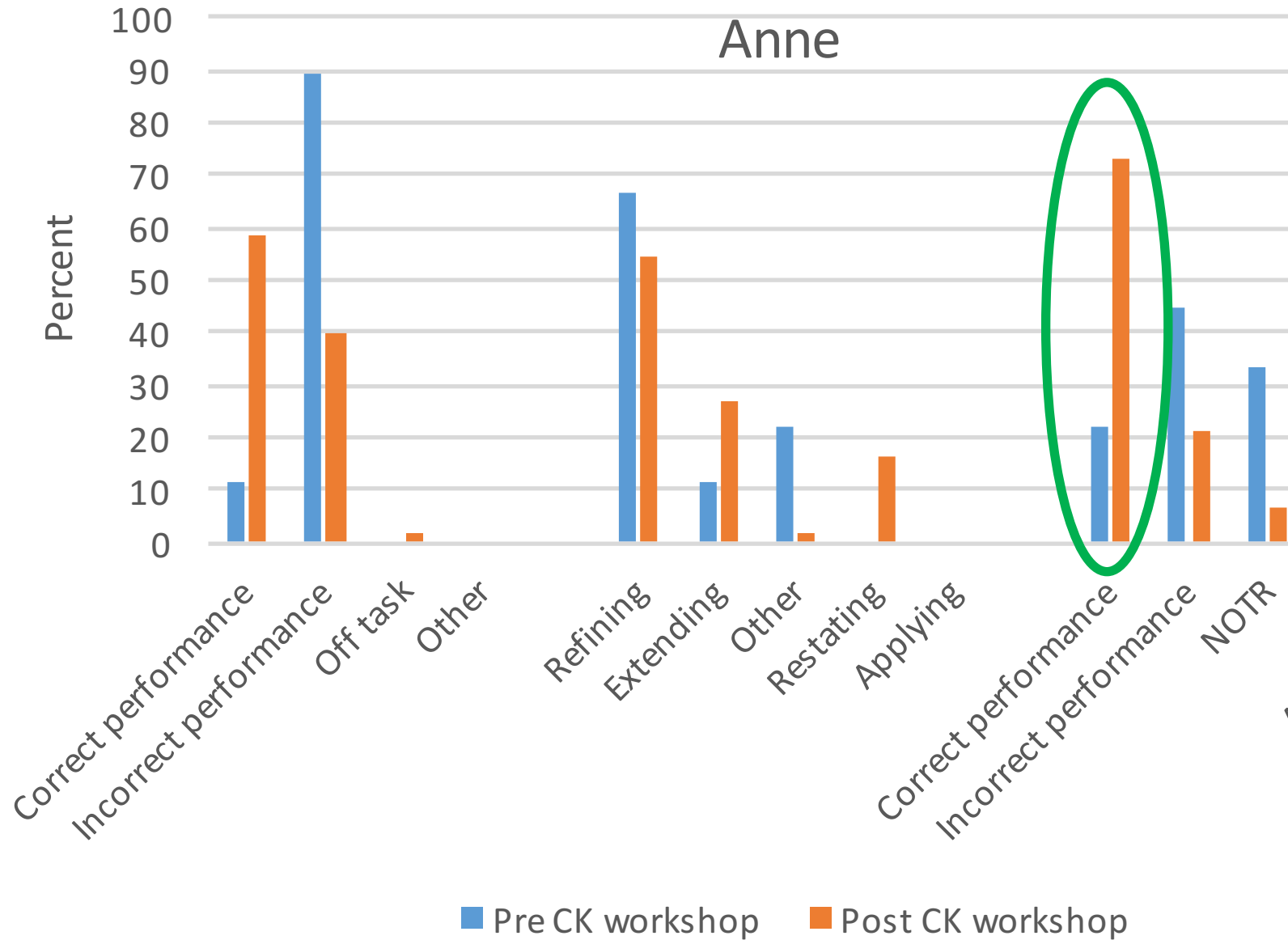
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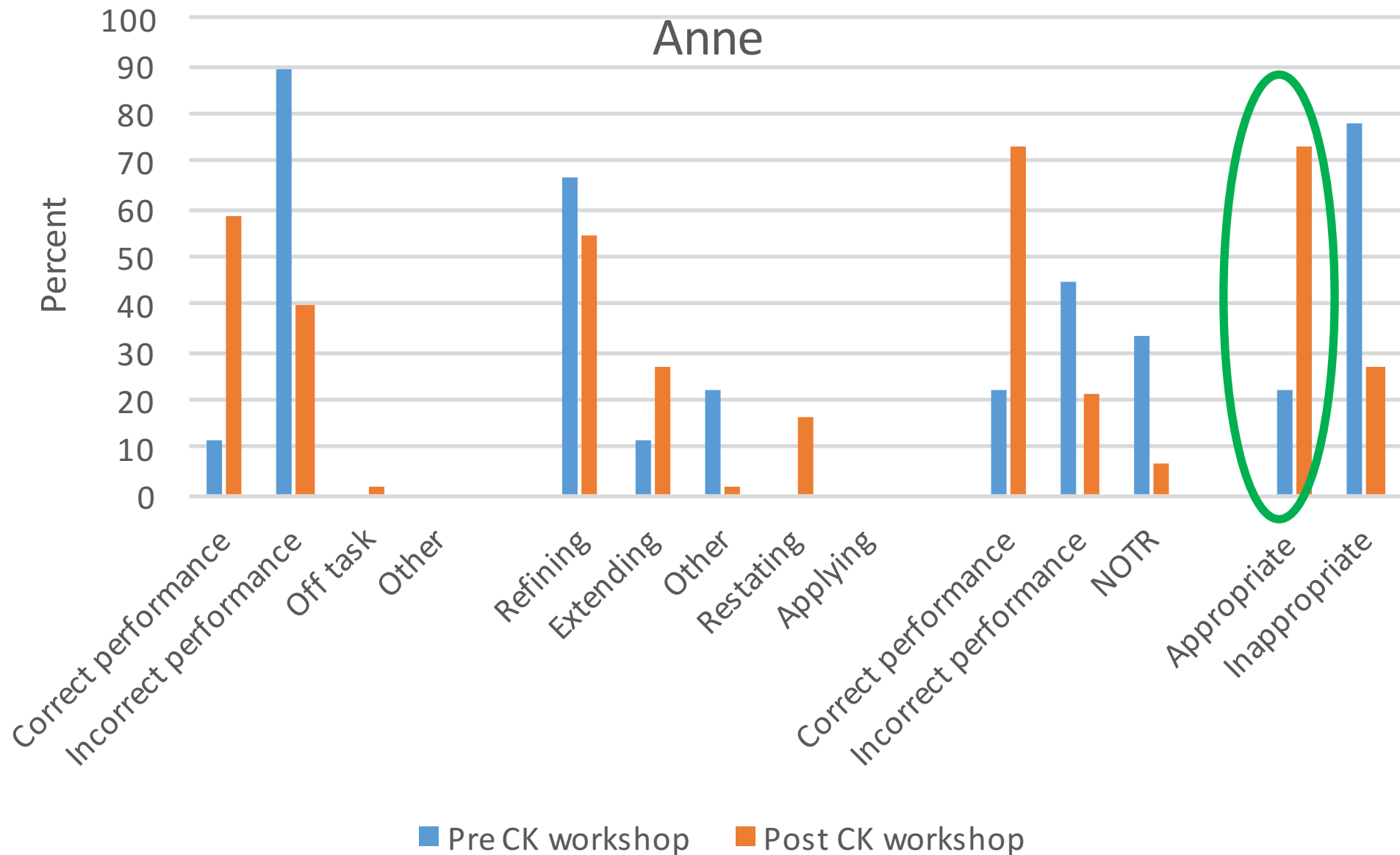
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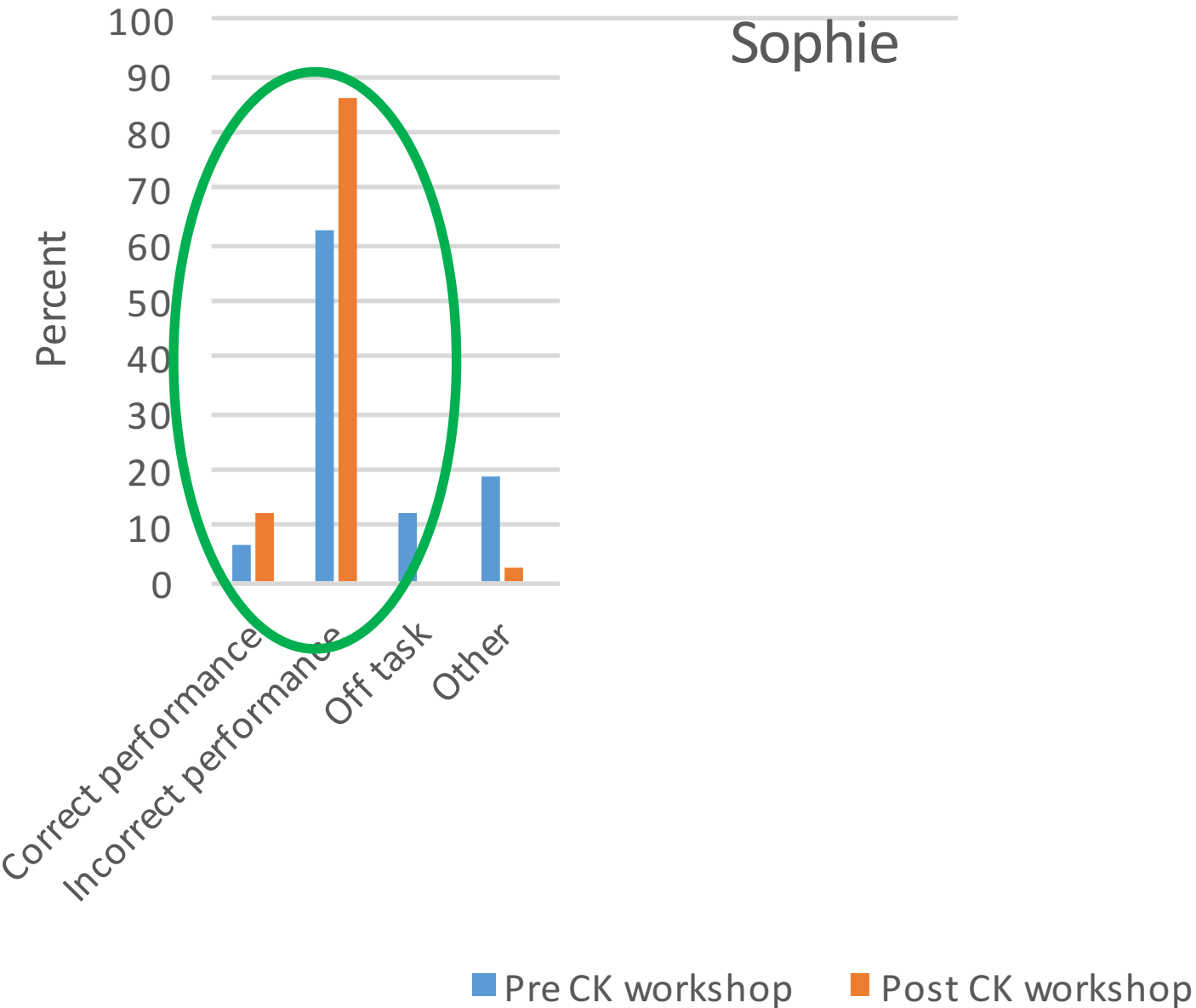
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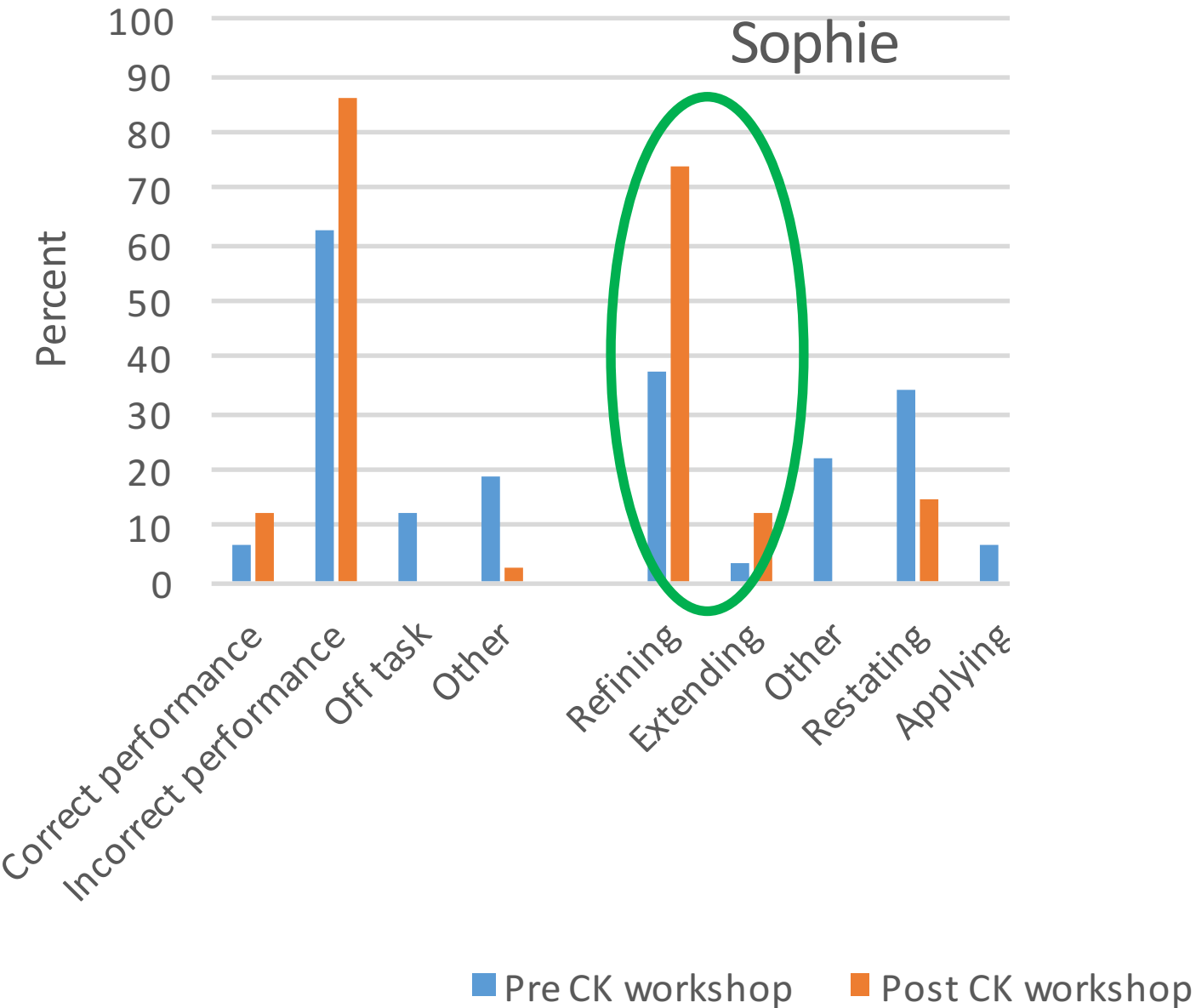
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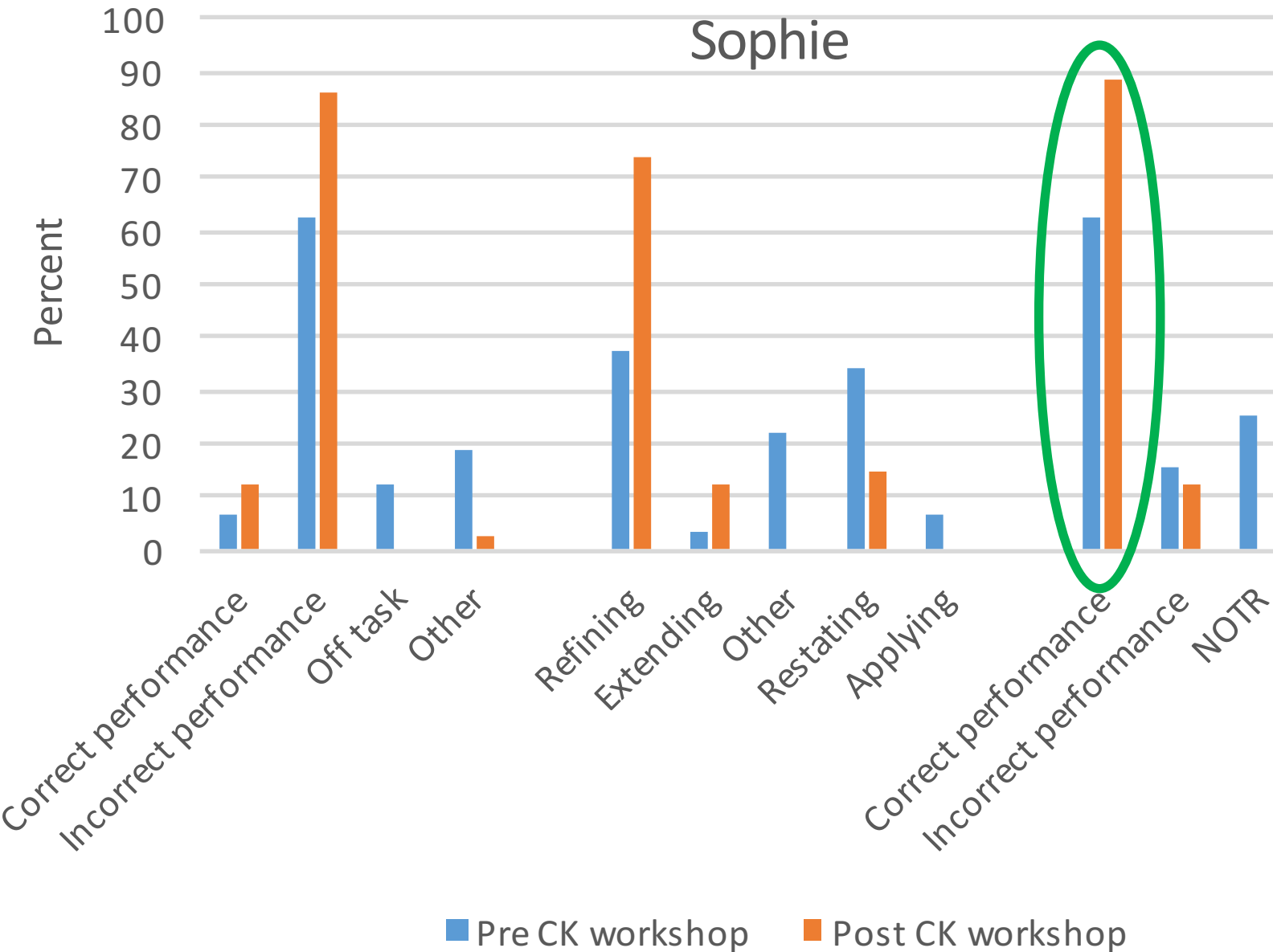
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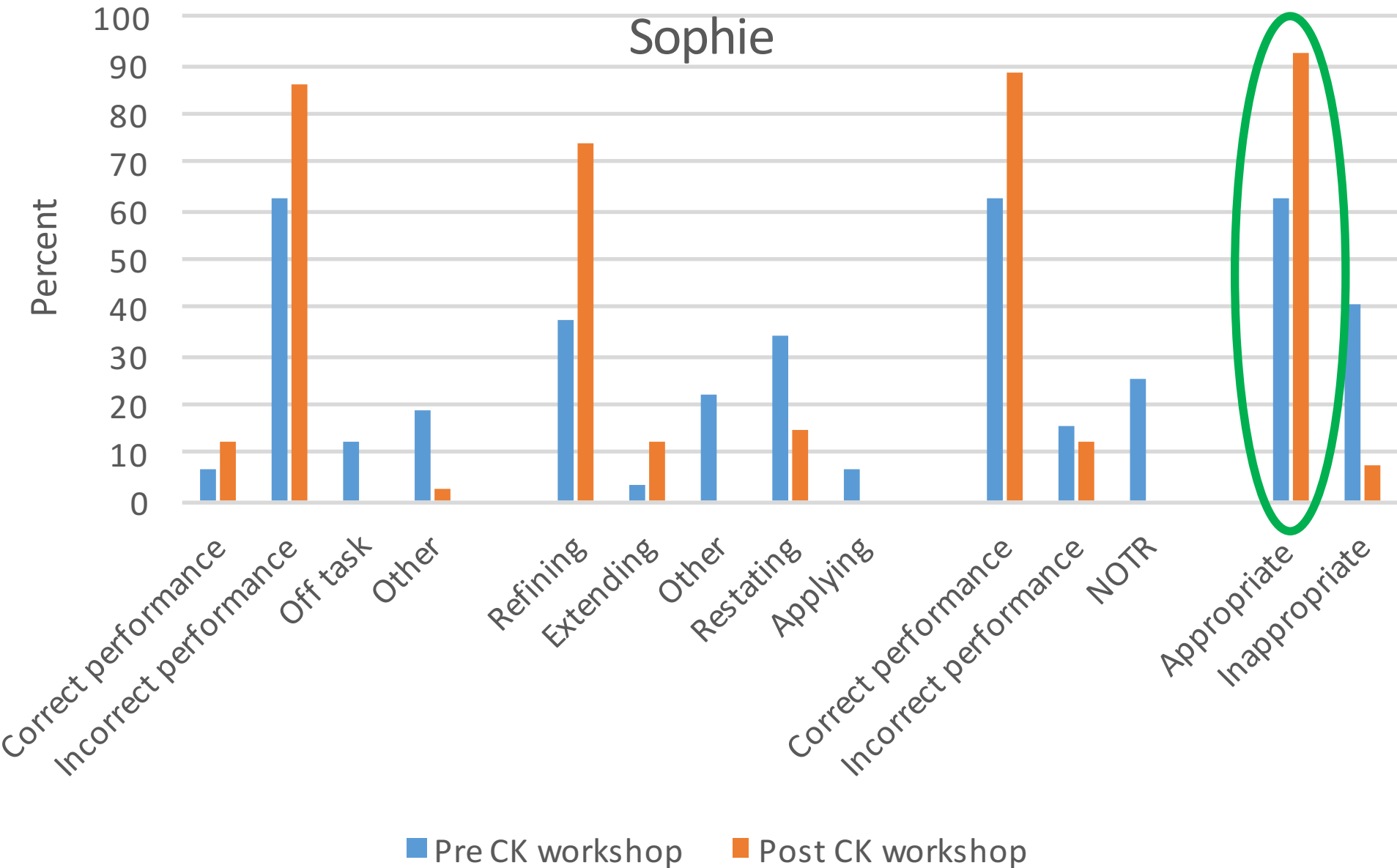
Functional analysis



Functional analysis



Functional analysis



Conclusion

- Task adaptations differ **between teachers** and as a function of a **content knowledge** workshop
- The increase of **extending tasks** reflect an increase in the **teachers instructional repertoire**
- The decrease of NOTR possibly reflects a **change in pedagogy**
- The proportion of **restating** tasks remained **substantial**

What next?

- What elements from the content knowledge workshop do teachers use?
 - Future work might ‘tinker’ with the workshop as an independent variable
- In terms of inter task development: when does the teacher decide to move on to the next task?
 - What proportion of children is successful when the teacher decides to move forward?



Thank you

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References

1. Ward, P. (2009). Content matters: knowledge that alters teaching. *Historic traditions and future directions of research on teaching and teacher education physical education*, edited by Housner, L., Metzler, M., Schempp, P. & Templin, T., 345-356. Morgantown, WV: Fitness Information Technology.
2. Rink, J. E. (1994). Task presentation in pedagogy. *Quest*, 46(3), 270-280.