The impact of metacognition in linguistics courses

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Introduction

- This study employs metacognition surveys to explore students' awareness when researching unfamiliar languages in two linguistics courses.
- This study aims to:
  - Raise awareness of metacognition within each learner via the implementation of surveys
  - Identify areas of strength and intervention both at the individual and the group level
  - Explore patterns of responses across linguistics classes

Framework

- Metacognition refers to “thinking about thinking”- the knowledge we have about our own cognitive processes (Flavel, 1979).
- It involves:
  - processes used to plan, monitor, and assess one’s understanding and performance
  - self-regulation and self-reflection of strengths, weaknesses, and types of learning strategies
  - understanding of situations, processes and methods that work best for students (Garner 1988)
- It has been linked to improving thinking skills and promoting conceptual change in younger students (Nickerson et al., 1985; White and Gunstone, 1989; Georghiades, 2000).
- However, there is still much to be researched about the role of metacognition on active learning, especially among college-age students and within particular disciplines.

Research Questions

1. How can critical thinking via metacognition be implemented in advanced linguistics courses?
2. Do metacognition activities have an impact on the development of students’ research skills?

- We hypothesize that the application of metacognition surveys:

  increases students' awareness of techniques that promote critical thinking and active learning in linguistics.

  allows the instructor to identify areas of strength and intervention throughout the duration of a given course.

Methods

- **Courses:**
  - FIELD METHODS (Spring-2020, 11 students)
  - MORPHOSYNTAX (Fall 2020, 13 students)
  - Both offered during a 16-week semester
- **Participants:** 24 college students
- **Instruments:** survey and demographic questionnaire. For the survey we adapted Tanner (2012)'s self-questions
  - *planning* (4 questions)
  - *monitoring* (9 questions)
  - *evaluation* (9 questions)

(Instruments and references available upon request)

Demographics of participants

		Field Methods	Morphosyntax
Level	Undergraduate	20%	50%
	Graduate	80%	50%
Gender	Female	19%	77%
	Male	63%	23%
	Non-binary	9%	0%
	Unspecified	9%	0%
Ethnicity	White	72%	46%
	Hispanic	9%	46%
	Native American	9%	0%
	African American	0%	8%
	Asian	9%	0%

UNM: Hispanic-Serving, Research I, and Flagship institution of the State.

Results

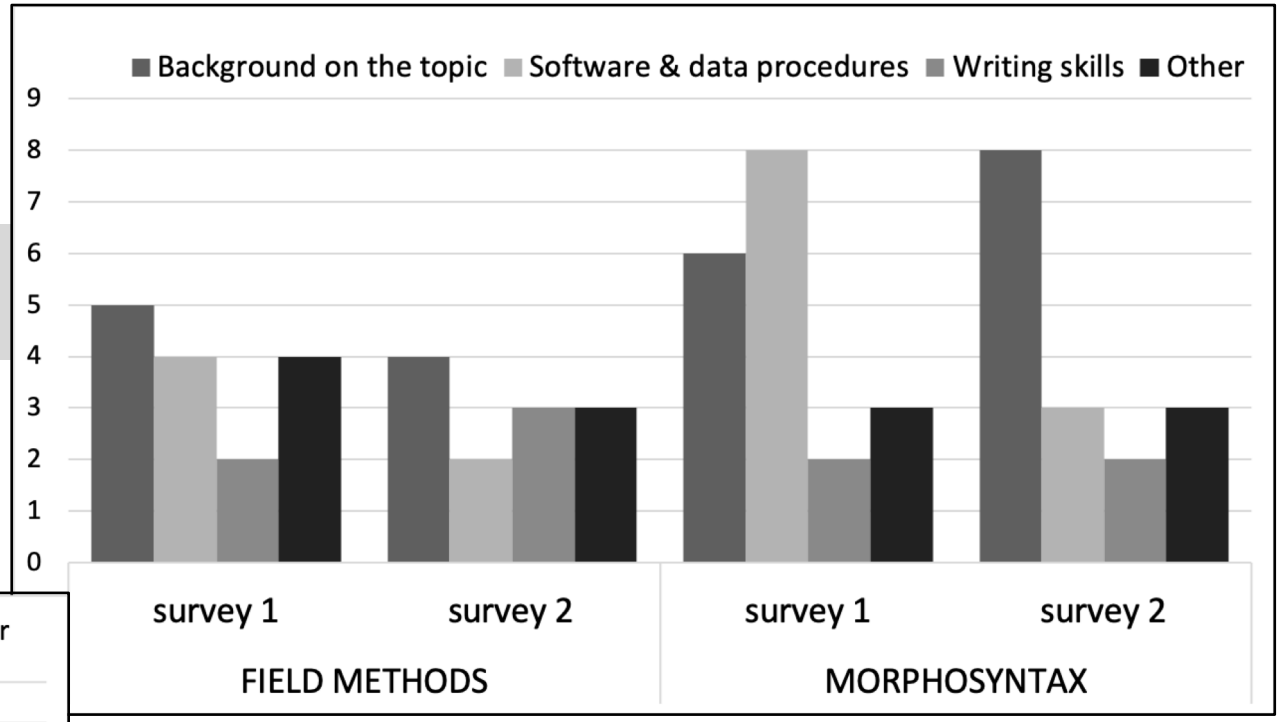
Planning

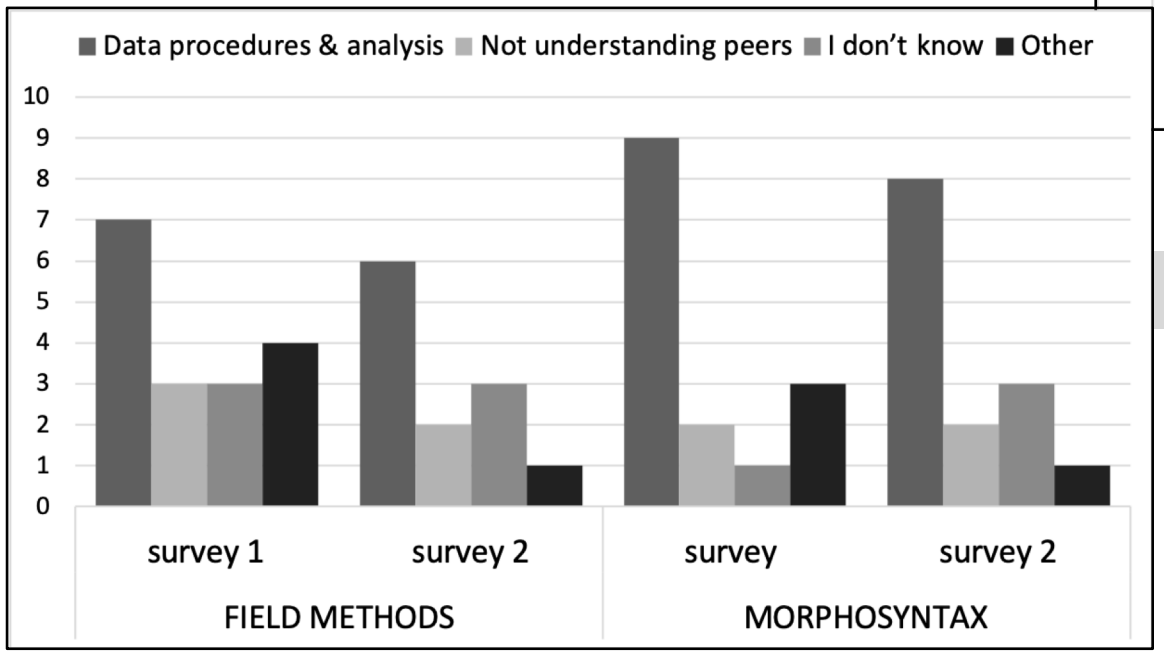
Q7: What did I think was the instructor's goal in having me do this project?
Q9: How did I select the specific topic/data for the project?
Q10: What resources did I need to start this project?

- Participants confirmed that the objective of each assignment matched the Student Learning Outcomes listed in the syllabus.
- Field Methods: 73% said that their peer(s) played a key role, and 45% that their background and interests.
- Morphosyntax: all the participants said the availability of the data was the primary criteria for selection, and around 60% of them mentioned their background and interests.
- All the participants identified literature review and access to data as primary resources for the completion of the project.

Monitoring

Q13: What limitations or questions did I face to complete this task?





Q14: What was most challenging for me about this task?

Monitoring

Q17: What strategies did I use that worked well to help me learn?

- **division of labor**

  "The division of labor between myself and my partner ended up working really well. My partners were in charge of doing most of the acoustic analysis in PRAAT (which they are much more versed than I am), while I took care of the theoretical synthesis, development of research questions and discussion of results. This allowed us both to contribute to the project using our respective strengths" (Field Methods, Survey 1).

- **workflow** when completing a task:

  "continual communication with the other group members and expressing clearly how we wanted to divide the work according to our strengths" (Field Methods, Survey 2).

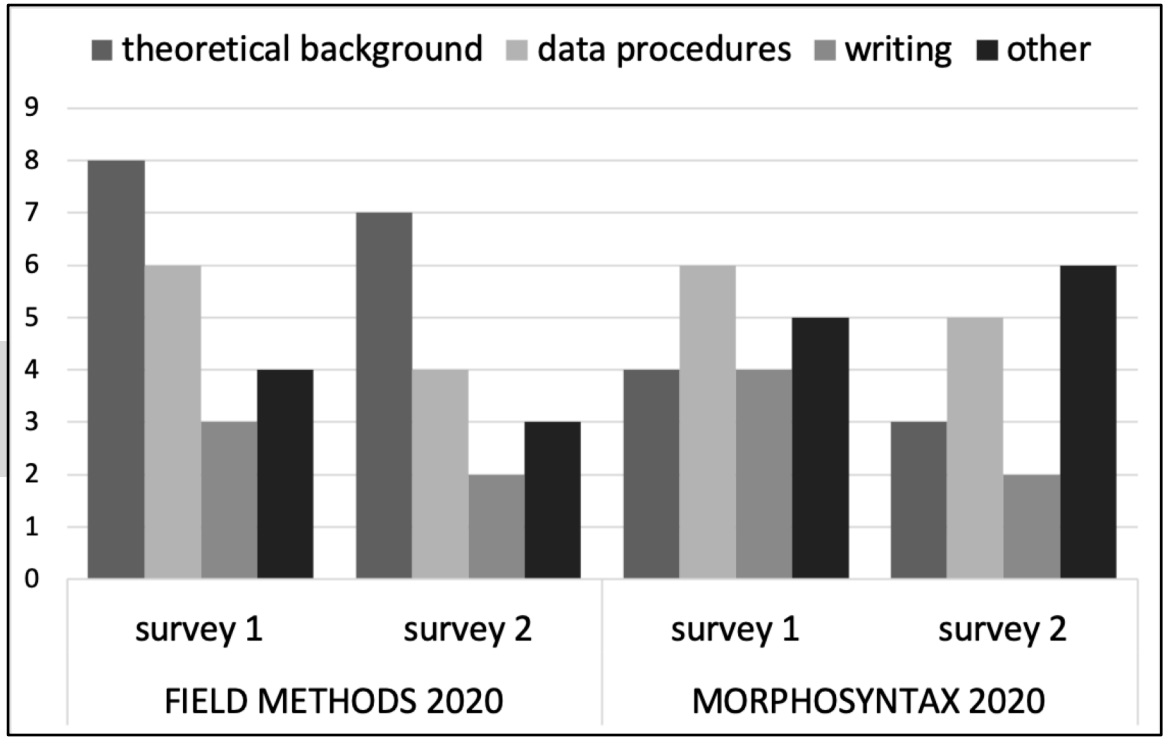
- **asking for help** "*regardless of how intimidating it was*"

- working on **shared documents** and **communicating** well with other group members:

  "XXX and I were texting and FaceTiming during the whole process, and that was incredibly helpful to know who could do what part when we were struggling with a section." (Morphosyntax, Survey 1).

Evaluation

Q1: What would I identify as my own strengths in the completion of this project?

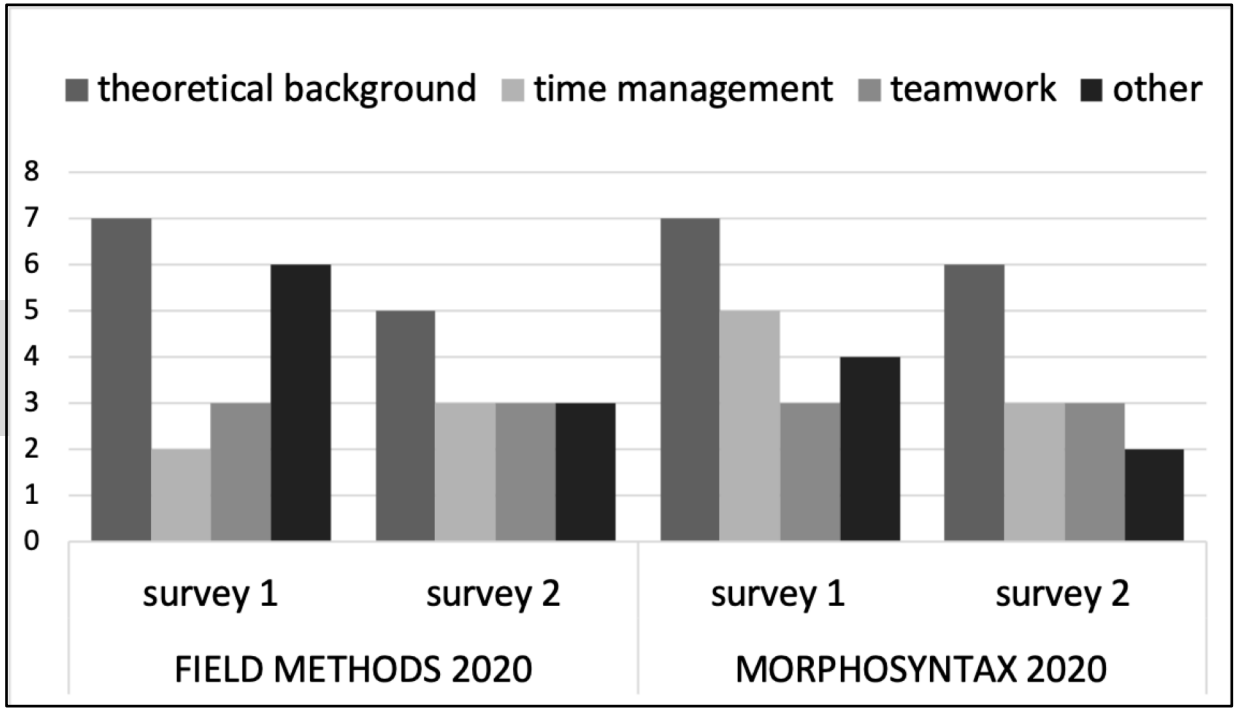


*"My biggest strength was probably my prior familiarity with the **subject matter cross linguistically**. I think this enabled us to elicit a good variety of useful data"* (Field Methods, Survey 2)

*"I would consider the [data] **collection** part of this project as my strength. I very thoroughly went through a large part of the grammar collecting the best possible examples to use for our project and comparing agents, themes, patients, and recipients"* (Morphosyntax, Survey 1)

Evaluation

Q2: What would I identify as my own areas of improvement in the completion of this project?



*"[I] needed more practice with **data collection and data analysis**" and "learn more about the **programs** work that we are using for this class"* (Field Methods, Survey 1 & 2)

*"**trusting** my other **group** members to do their share of the work… I could have **started the project earlier** and read through the entire chapters that addressed the subject rather than picking and choosing which sections would benefit from a glance"* (Morphosyntax, Survey 2)

Discussion

Integrating metacognition via surveys can help to:

Students

- notice learning concerns and self-capabilities
- raise awareness about learning strategies and help develop self-efficacy
- communicate better individual needs and challenges when completing a task
- highlight the importance of time management and teamwork
- recognize that asking for help is key to monitor their understanding and learning content
- reflect upon research skills and *persona* growth

Instructors

- identify areas of teaching intervention to enhance critical thinking
- develop more inclusive and informed teaching practices
- avoid making assumptions about the readiness of the group and to be open to make adjustments throughout the semester
- monitor the flow of a course
- create spaces in the calendar to address concepts that are key to research projects
- generate customized moments for immediate feedback individually and as a group.

Final remarks

- How does the information collected can contribute to student learning and one's teaching?
- The responses to the surveys:
  - should be discussed with the participants throughout the semester, as a reflection activity and opportunity for growth.
  - can help identify diverse talents among students and consider this information in the design of collaborative projects.
  - could be incorporated in future iterations of the courses.
  - could be considered as an alternative way to assess instructor's teaching.
- Overall, it is important to foster a classroom culture grounded in metacognition, students must be given opportunities to recognize, assess and connect skills over an extended period of time.

¡GRACIAS!