

# Proficiency-Related Variation of Syntactic Complexity in L2 Chinese

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## Introduction

- Syntactic complexity in L2 has been captured in coordination structures and in subordination structures at least in L2 English, Dutch, Italian, Spanish (Kuiken & Vedder, 2019; Lambert & Nakamura, 2019; Wolfe-Quintero et al., 1998). However, whether these structures could reflect proficiency of L2 Chinese learners has not been tested.
- The null element, a salient feature of Mandarin Chinese, may be a sensitive index to reflect the syntactic complexity of L2 Chinese. However, there's few studies considering null elements when assessing proficiency-related complexity (except for Jin, 2007).
- Using both general and fine-grained measures, this study investigates the syntactic complexity variation in L2 learners of Mandarin Chinese with different proficiency levels.

## Null elements in Mandarin

- As a discourse-oriented language, when a sentence consists of several clauses which share the identical topic, Mandarin Chinese allows deleting the rest of the topics except the first one, as in (1) (Huang, 1984).  
  
(1) [Zhongguo, defang hen da.] [e, renkou hen duo.] [e, tudi hen China place very big population very many land very feiwo.] [e, qihou ye hen hao.] [e, women dou hen xihuan e.] fertile climate too very good we all very like  
'(As for) China, (its) land area is very large. (Its) population is very big. (Its) land is very fertile. (Its) climate is also very good. We all like (it).'' (Example from Huang, 1984)
- As for phonetically null subjects and objects, they are allowed in Chinese when the referent has been explicitly mentioned in the prior discourses, or the referent is salient enough in the pragmatic context for addressee to identify, as in (2) (Zhou, Mai & Yip, 2021).  
  
(2) Speaker A: Zhangsan kanjian Lisi le ma?  
Zhangsan see Lisi LE Q  
'Did Zhangsan see Lisi?'  
Speaker B: e kanjian e le.  
see LE  
'[He] saw [him].'' (Example from Huang, 1984)

## Selected References

- [1] Huang, C. T. J. (1984). On the distribution and reference of empty pronouns. *Linguistic inquiry*, 531-574.  
[2] Jin, Honggang. (2007). Syntactic maturity in second language writings: A case of Chinese as a foreign language (CFL). *Journal of the Chinese Language Teachers Association*, 42(1), 27-54.  
[3] Kuiken, F., & Vedder, I. (2019). Syntactic complexity across proficiency and languages: L2 and L1 writing in Dutch, Italian and Spanish. *International Journal of Applied Linguistics*, 29, 192-210.  
[4] Kuiken, F., Vedder, I., Housen, A., & De Clercq, B. (2019). Variation in syntactic complexity: introduction. *International Journal of Applied Linguistics*, 29, 161-170.  
[5] Lambert, C., & Nakamura, S. (2019). Proficiency-related variation in syntactic complexity: A study of English L1 and L2 oral descriptive discourse. *International Journal of Applied Linguistics*, 29, 248-264.  
[6] Zhou, J., Mai, Z., & Yip, V. (2021). Bidirectional cross-linguistic influence in object realization in Cantonese-English bilingual children. *Bilingualism: Language and Cognition*, 24(1), 96-110.

## Methods

- **240 recordings of Chinese L2 learners**  
Divided in 3 proficiency groups: beginners, intermediate learners, advanced learners; 80 recordings for each proficiency group (from recently published Global Chinese Interlanguage Texts Corpus 全球汉语中介语语料库)
- **Control group: 40 recordings of Chinese native speakers** were collected for the purpose of the study
- **Recording : elicited production; the questions were adapted from standard Chinese Oral Proficiency Interview (OPI) test. Following are specific questions:**  
(1) Introduce your school and your major;  
(2) Your experience in living and studying in China;  
(3) Introduce one of your friends;  
(4) Compare two cities: your hometown and the city you currently live in.
- **Eight syntactic complexity indices were adopted in the present study, as in table 1**

General indices		Mean Length of Chinese Analysis of Speech Unit (AS unit) (MLAS)
		Average number of clauses within Chinese AS unit (MNC)
Fine-grained indices	Coordination	Average number of coordination relationship within Chinese AS unit (MNco)
	Subordination	Average number of complement clauses in each AS unit (MNcom)
		Average number of attributive clauses in each AS unit (MNatt)
		Average number of adverbial clauses in each AS unit (MNadv)
	Null elements	Average number of null elements in each AS unit (MNemp)
NP complexity	Average number of complex noun phrases in each AS unit (MNn)	

Table 1: syntactic complexity indices adopted in the present study

## Results and Discussions

- ANOVA results show that there are significant differences in **overall complexity** between proficiency groups ( $p < 0.01$ ), consistent with previous findings in European languages (Figure 1).
- The variation of coordination structure, subordination structures and null elements demonstrate some unique patterns in L2 Chinese (Figure 2):
  - Results of MANOVA show that the number of **coordination structures** keeps rising continuously with the increase of proficiency and reaches its peak in native speakers' speech (Figure 2)
  - The number of **complement clauses** and **adverbial clauses** enters a plateau at the intermediate level; the frequency of these two types of clauses in native speakers' speech is significantly lower than that in learners' speech ( $p < 0.01$ )
  - The number of **attributive clauses** and **empty elements** show a significant increase at the intermediate and advanced stage of learning respectively ( $p < 0.01$ )
- In terms of **phrasal complexity**, the frequency of complex nouns shows significantly difference between beginners, advanced learners and native speakers ( $p < 0.01$ ) (Figure 3).

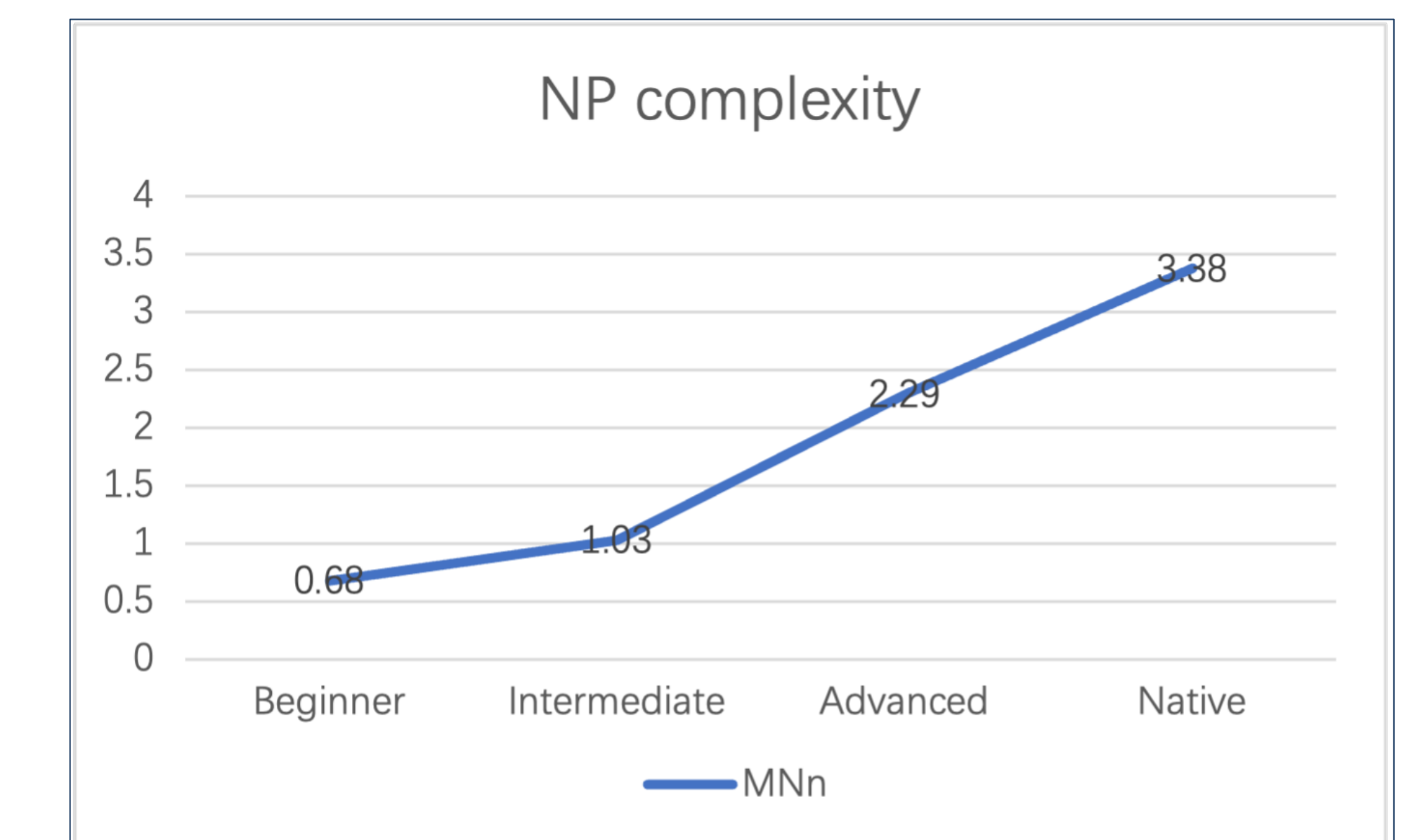


Figure 3

- Using both general and fine-grained indices, the findings show the different variation pattern of Chinese syntactic complexity compared with Indo-European languages.
- The most significant differences lie in the coordination structure and in the null elements. In L2 Chinese, the number of coordination keeps rising without entering a plateau. The number of empty elements is a sensitive indicator of advanced even native proficiency in speech.
- This study has important implication on studies which try to explore the cross-linguistic differences in syntactic complexity. The fine-grained measure adopted by this study also shed light on future complexity studies which target at languages with empty elements such as Italian and Spanish.

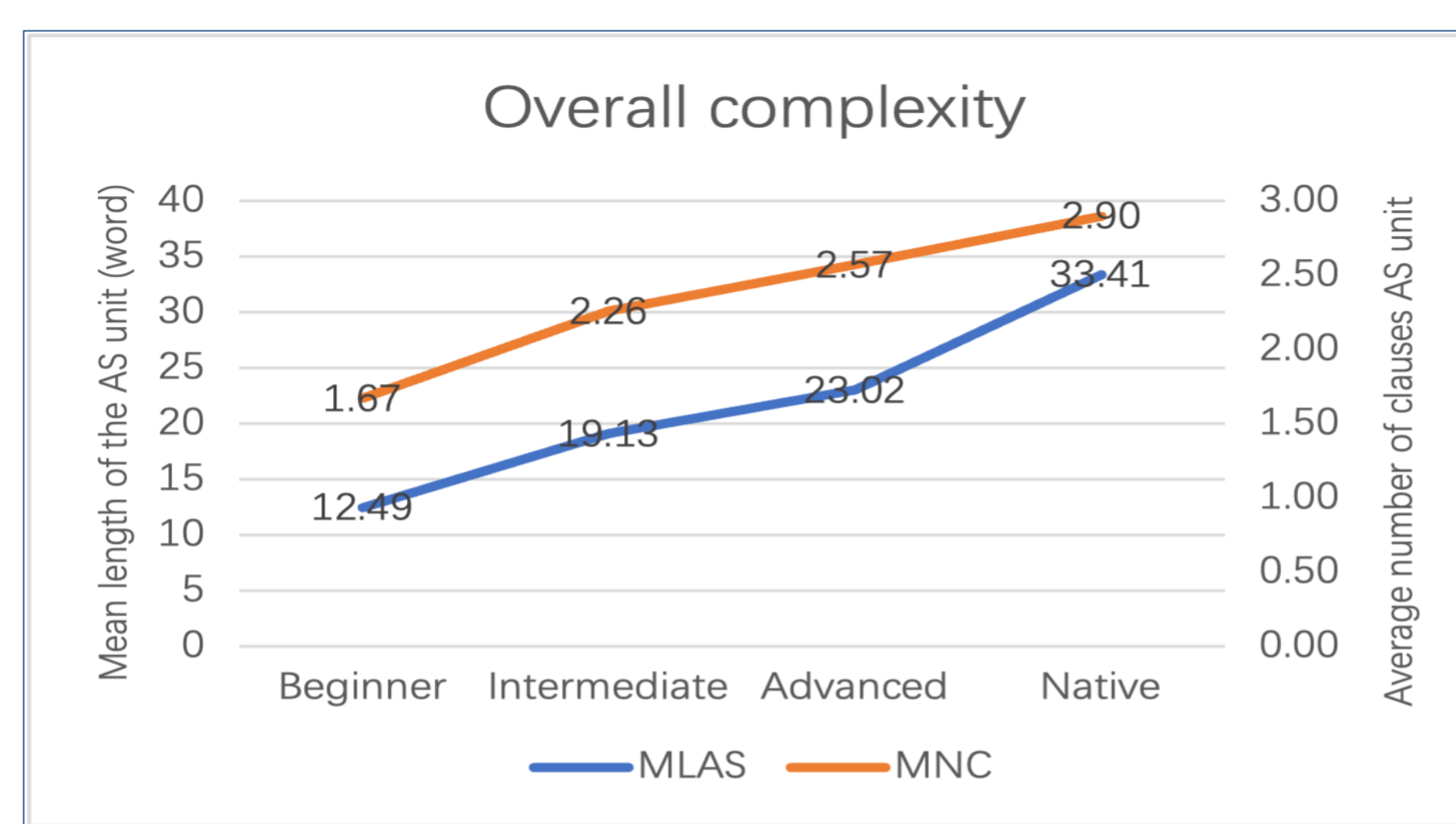


Figure 1

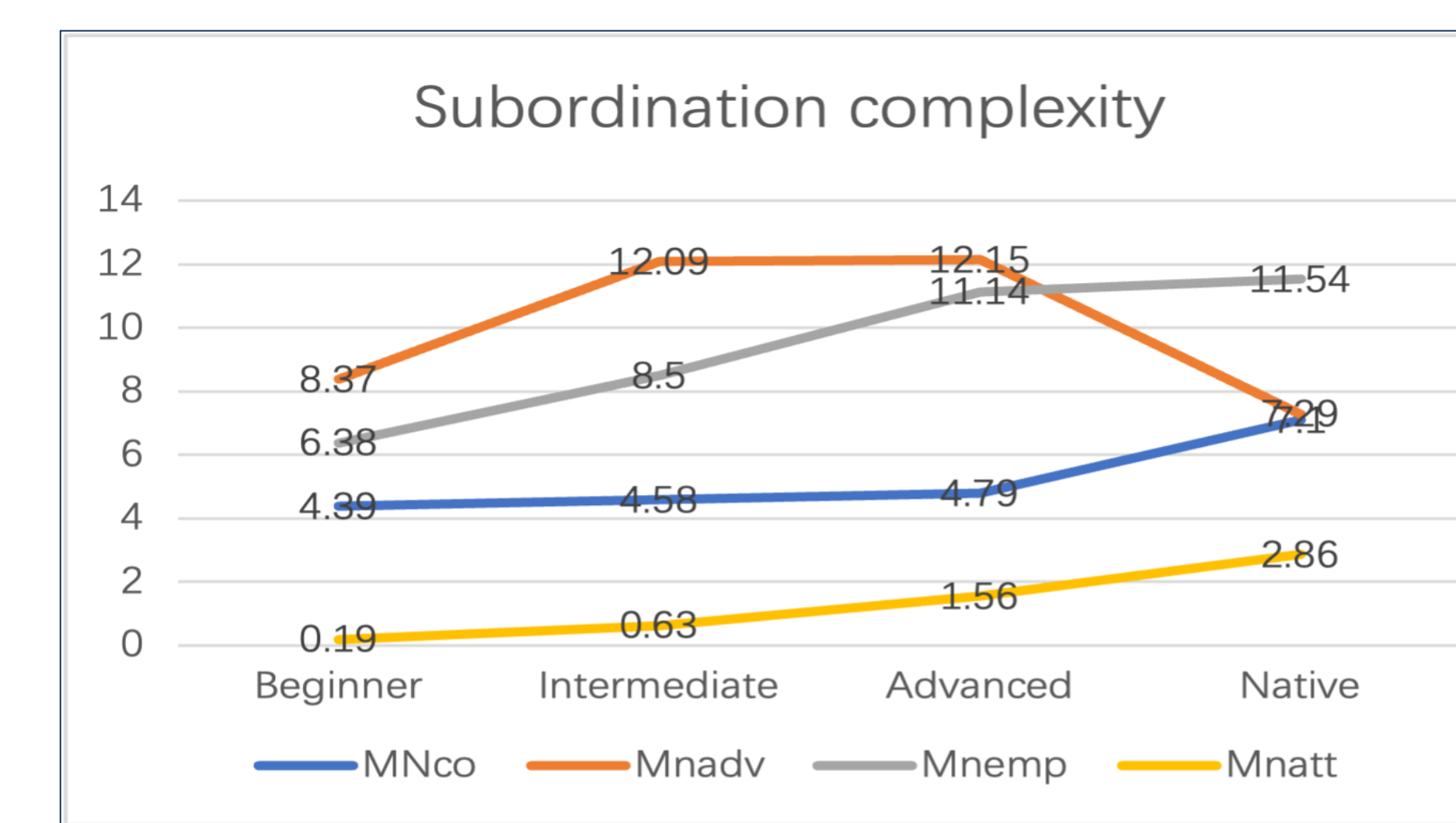


Figure 2