Maximizing EFL learners' ZPD in inferential reading through computerized-group dynamic assessment (C-GDA)

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"The problem lies not in what standardized tests do, which they do very well, but instead in what they do not do…they are not good indicators of learning potential." (Haywood, 1997:104)

Introduction

- The current study aims to advance the field of L2 education by exploring the application of **computerized-group dynamic assessment** (C-GDA, Bakhoda & Shabani, 2019) in maximizing EFL learners' developmental potential in inferential reading within a sociocultural framework.

- The dualism between instruction and assessment in static standardized assessments has always been one of the most problematic issues in L2 education. Traditional assessments only measure fully matured abilities which constitute only a small fraction of learners' cognitive ability and their overall image of development. As learners' future is always in the making, the diagnosis and promotion of their abilities need to embrace their future learning potential for a fairer assessment of performance.

- Believing that future is something dynamic rather than fixed, **Dynamic Assessment (DA)** has been introduced as a brand-new perspective, evaluative method and pedagogy guided by Vygotsky's Sociocultural Theory (SCT). It unifies instruction with assessment in a single activity by providing learners with mediations (e.g., feedback) during the evaluation process aiming to identify and narrow their learning gaps as well as to ultimately contribute to their L2 development. Not all feedbacks are truly beneficial to learners' development unless they are provided attuned to learners' Zone of Proximal Development (ZPD).

- During the DA procedure, feedbacks are offered either through individualized dialogues naturally co-constructed in a flexible manner for interactionist DA approach or through the provision of graduated feedback fabricated beforehand for interventionist DA approach. However, each approach has its own trade-offs, thus the exploration of a hybrid model in the current study will provide rationale for a more practical classroom-based DA.

Definitions of Key Terms

ZPD: Zone of Proximal Development, a learner's potential for future development under suitably-arranged assistance.

Mediation: The process through which the social and the individual mutually shape each other.

G-DA: Group Dynamic Assessment, a branch of interactionist DA which applies the same principles of mediation as in individualized interactions but broadens the focus to potentially an entire group or class.

C-DA: Computerized Dynamic Assessment, a branch of DA mainly aligning with the interventionist approach which employs a web-based system to provide automatic and graduated mediations to L2 learners.

Objectives

The current study is the pilot study of a larger research project and aims to

✅ serve as the first step towards establishing more evidence for future interventions and help forming a tentative hypothesis which could be followed up with a more detailed and organized research design.

✅ explore the tentative synergy between two DA offshoots, i.e., the interactionist G-DA and the interventionist C-DA, in mitigating the deficiencies of a single approach and maximizing learners' potential in L2 development.

✅ offer practical solutions for implementing the hybrid C-GDA model in curriculum-based EFL classrooms with relatively larger cohorts of students.
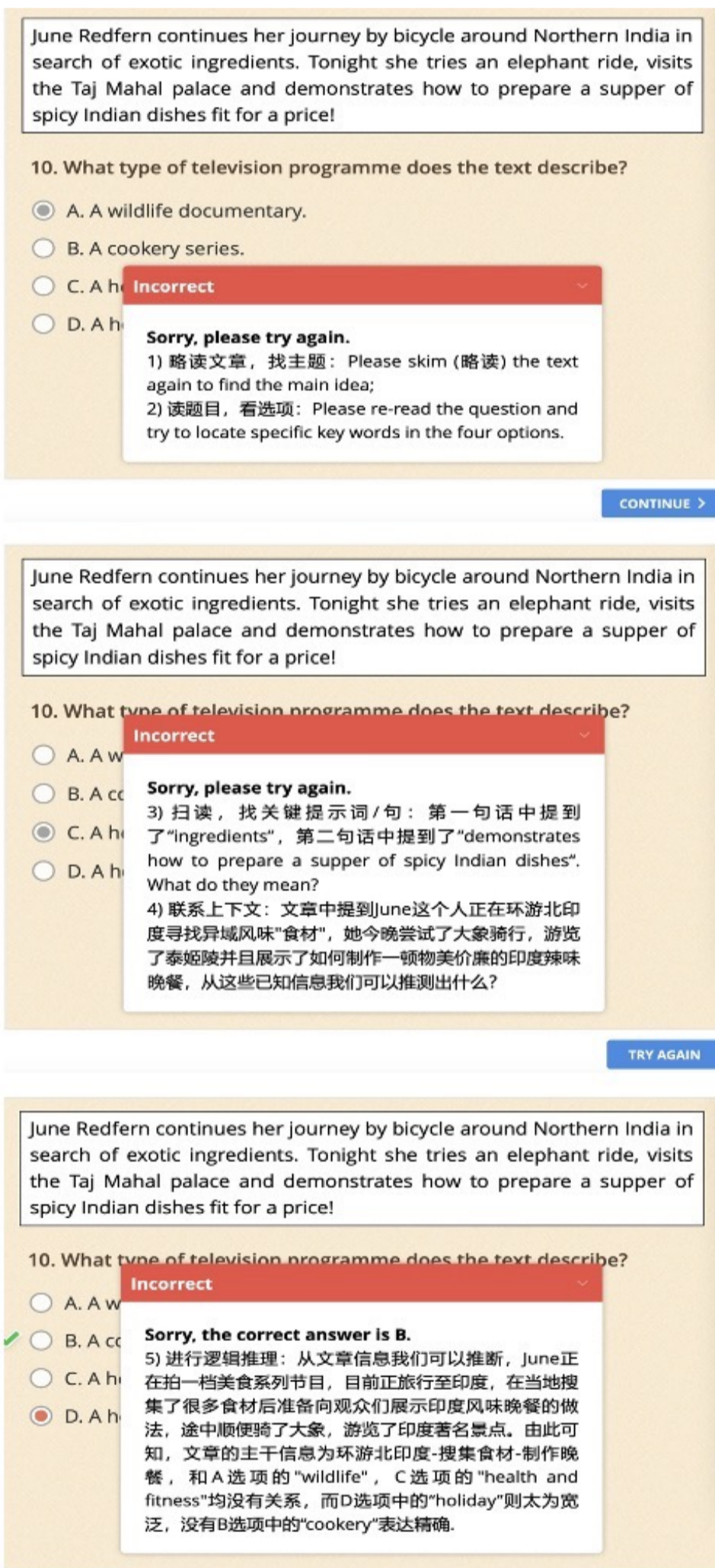
Methodology

The current study is framed as a pre-experimental research design due to its pilot study nature. Participants consisted of an intact class of 23 second-year undergraduates (18 females, 5 males) from a local university in China. The class was initially formed based on students' scores in a university-based English proficiency test held at the beginning of the term and all participants in the study were among the top 30% with similar English proficiency levels.
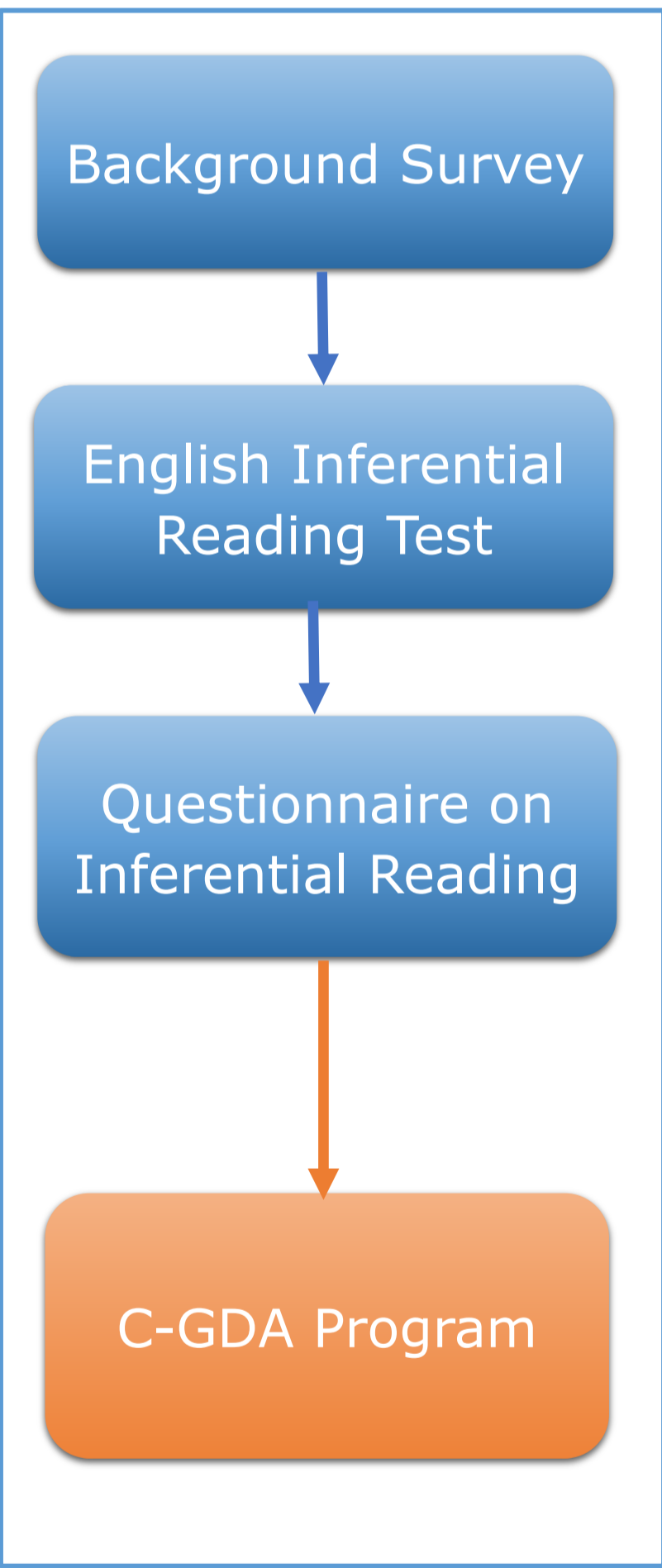
Background Survey
- Collect participants' background information (e.g., prior English learning experience);
- Check their familiarity with the inferential reading question type (none of them were familiar with this question type).

English Inferential Reading Test
- Participants were given an online test with 20 short English passages selected from the DIALANG database, each followed with one multiple-choice inferential reading question;
- Serve as the material to be used in the following C-GDA program.

Questionnaire on Inferential Reading
- Identify the difficulties participants had encountered during the reading test based on which the teacher/mediator's feedbacks were delivered flexibly during the G-DA sessions;
- Record participants' thinking steps during the reading process based on which graduated mediational prompts were devised for the C-DA software.

C-GDA Program
- Lasted 1 hour and targeted 8 reading passages with lowest accuracy rates;
- For each passage, the teacher/mediator asked individual participants who had chosen incorrectly at first attempt to reveal their thoughts. During the one-to-one G-DA dialogues, feedbacks were provided by the teacher in a flexible and consistent manner. Each participant took turns to participate as primary interactants while other participants acted as secondary interactants;
- Concurrently, the C-DA software automatically provided prefabricated yet stratified mediational prompts on a projected screen based on participants' responses. The software would switch to the next passage either if all mediational prompts had been revealed or if a participant had answered correctly in between.
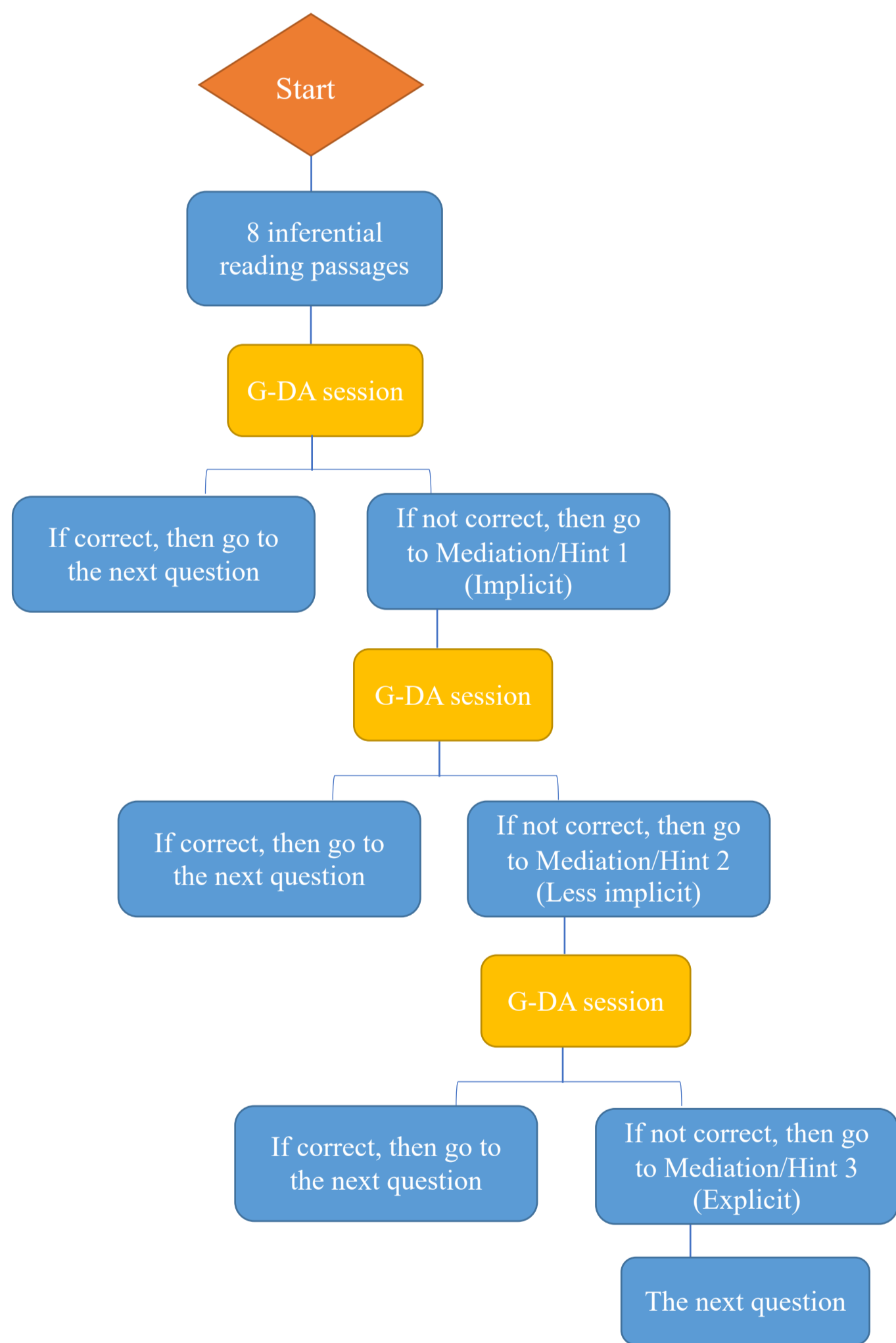
C-GDA Process Diagram   C-DA Software Interface

Main Findings

Quantitative Findings:
- The improvement of the group/class ZPD in L2 inferential reading was manifested in the decreasing number of mediational prompts students needed in order to reach the correct answer throughout the 8 passages.

- For the first three passages, all the three mediational prompts were needed for the class to reach the correct answer. Then the quantity decreased to two prompts for the next three passages, indicating that the group/class ZPD level was gradually improving. The last two passages required only one prompt to be answered correctly.

Qualitative Findings:
- Meanwhile, the subtle progress of individual ZPD in L2 inferential reading was revealed through the teacher-student/mediator-participant interactions during C-GDA. Transcriptions of the qualitative interactions showed that students had internalized various inferential reading strategies with improving individual ZPD levels.
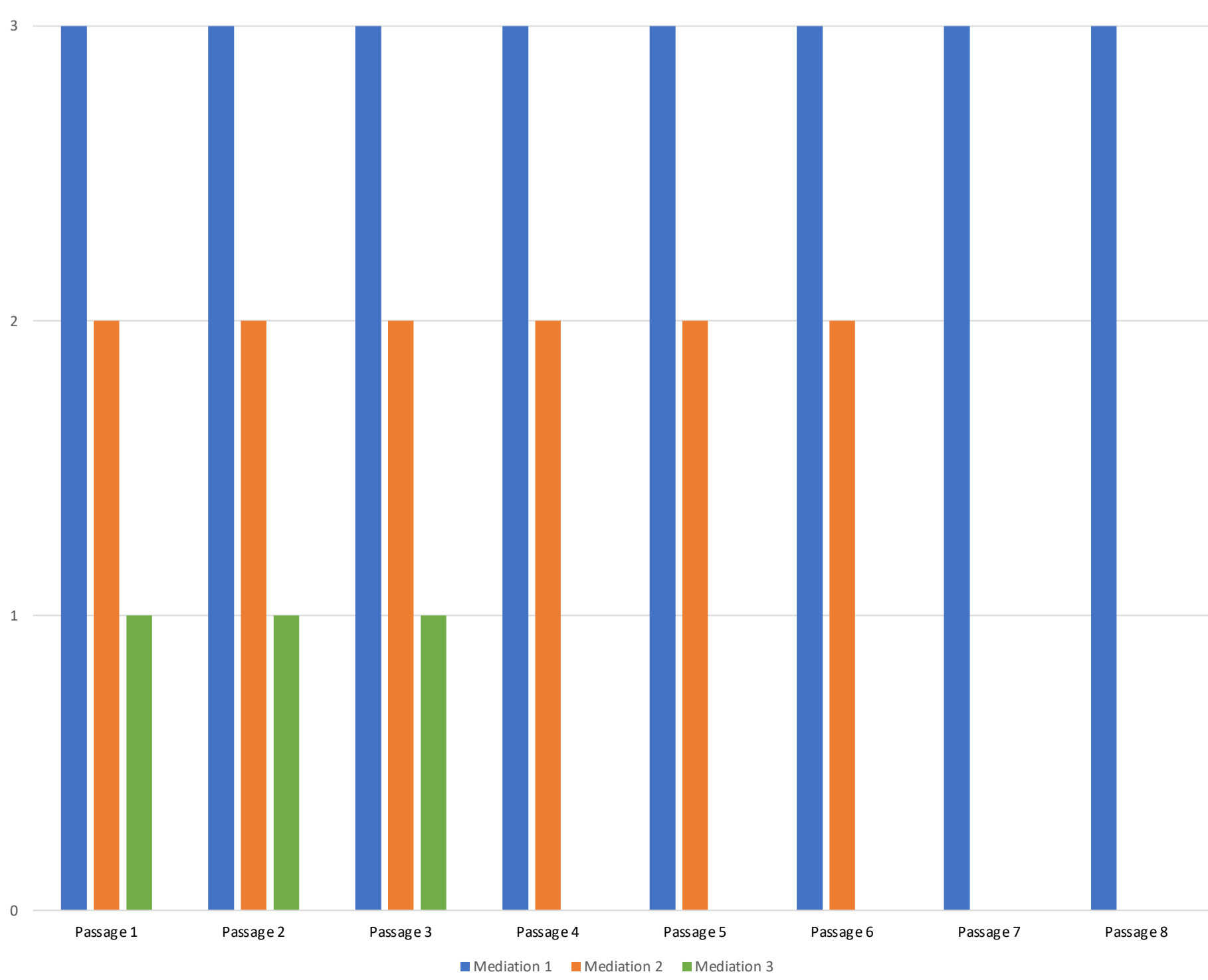
Additional Insights:
- Participants who scored the same in the inferential reading test required different levels of support or mediations to infer the correct answer during C-GDA;
- It was nearly impossible to guarantee every participant's attentiveness during C-GDA, thus the teacher/mediator might consider directing more dialogues or leading questions to the whole class to regularly draw attention from the rest participants;
- Speaking in public in front of other classmates could be burdensome for many EFL learners in the Asian context, thus the mediator's encouraging and gentle words were essential in smoothly moving the interactions forward.

Limitation:
- Since the current study is only the pilot study of a formal project, limitation lies in its pre-experimental design without a comparable control group. In the formal project, a more rigorous pretest-enrichment program-posttest control group design is guaranteed.

References:
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