# Integrating mediation into computerized dynamic assessment of L2 speaking to inform an effective pedagogy

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**Abstract:** The computerization of dynamic assessment can allow a large number of learners to be assessed simultaneously and produce rich and easily interpretable results. However, its application in second language (L2) speaking is hardly touched upon. This paper proposes an innovative mediation menu to fill this gap. It promises to produce results for both understanding learners' speaking competence and facilitating classroom teaching.

**Keywords:** computer-based testing, dynamic assessment, L2 speaking, classroom teaching

## 1. Introduction

Dynamic assessment (DA) provides an innovative alternative to traditional static assessment. Framed within sociocultural theory (Vygotsky, 1986) that sees an individual's interaction with more capable others as sources of development, it 1) allows the examiner to provide mediation (assistance) when necessary; 2) promotes learners' development in the tested area during the assessment; 3) reveals learners' strengths, weaknesses and learning potential by tracking their responses to external help. Computerized dynamic assessment (C-DA) is its administration on computers. It increases testing efficiency (Poehner & Lantolf, 2013) and can generate insightful quantitative results (Yang & Qian, 2019; Zhang & Lu, 2019) that aids classroom teaching. However, little empirical work explores the use of C-DA in the assessment and instruction of second language (L2) speaking. Also, nearly all available C-DA research in the area of L2 education test learners with close-ended questions and provide standardized mediation (with the exception of Ai, 2017). Researchers (e.g., Poehner, Zhang and Lu, 2015) call for other modes of testing and more flexible and individualized mediation. This current research aims to fill the lacunae discussed above.

## 2. Research objectives

The work presented here intends to translate C-DA results into effective L2 speaking pedagogy in which collective teaching activities are carried out with individual competence and needs considered and attended to. To achieve this goal, mediation will be integrated into an existing computer-based speaking assessment program for Chinese learners of English to develop a C-DA extension based on it. Then, this study builds on the results generated in C-DA, including learners' actual (unassisted) performance, mediated (assisted) performance, and learning potential and explores how they can be used to facilitate speaking instruction within the classroom.

## 3. Methodology

Two research questions guide this study: 1) to what extent can mediation provided in computerized dynamic assessment of L2 speaking improve learners' performance? 2) to what extent is a C-DA informed pedagogy helpful in L2 speaking teaching? To answer these two questions, a mixed-method study that comprises three phases is devised. Firstly, a small number of learners will be invited for a

focus-group interactionist DA session to pilot all the speaking tasks. The examiner's interaction with them and their improvement in speaking performance will be analyzed to enable a mediation menu that contains necessary help for completing the speaking tasks. With this menu programmed into C-DA, it fulfills the role of a mediator/teacher, and test-takers can choose from it what suits their problems the best. Next, the C-DA program will be conducted with over 100 learners to examine the possible distinction between their performance before and after the mediation. Lastly, results from C-DA will be used by a teacher to organize tailored teaching.

The two major types of data in this study are: 1) the $p$ value based on a paired-sample t-test, and 2) the teacher's and students' written reflections in their working portfolio. To answer the first research question, the $p$ value will be calculated to determine whether the C-DA program with its mediation menu can result in a statistically significant difference between the participants' L2 speaking performance. To answer the second question, the participating teacher's and students' working portfolio will be collected, in which they are prompted to keep a record of their activities in the L2 classroom related to speaking, the relatedness of these activities to C-DA, and their perceptions and experiences of C-DA influences in their classroom instruction.

## 4. Challenges and questions

There is a particular challenge that lies in the third phase of this study in which how C-DA results can be translated into effective pedagogical measures is investigated. In the current plan, a teacher will receive all the learners' C-DA scores and profiles. Nevertheless, what this teacher would do with these results is uncontrolled. Therefore, the question lies in to what extent should the researcher be involved in the decision-making of the teacher. To solve this problem, the researcher will provide necessary references regarding C-DA and classroom DA to the teacher and keep a honest record of all the interactions with the teacher to make public all possible influences and informed practices for further examination.

## 5. Future plan

As a researcher and practitioner in L2 education, I have continuously focused on L2 speech development and corresponding teaching interventions. This project, made possible by the powerful and innovative tool of computerized testing and dynamic assessment, is part of the efforts to bridge L2 speaking testing and teaching. With empirical data gained from this study, in the future, it is hoped that a C-DA L2 learning program can be developed to serve as both a learning tool and research tool. For learners, they operate independently on their devices and mitigate their speaking challenges with computerized mediation. For research, data generated from this program can feed into a critical understanding of learner potential and individual needs.

## Acknowledgment

# References

Ai, H. (2017). Providing graduated corrective feedback in an intelligent computer-assisted language learning environment. *ReCALL*, 29(3), 313-334.

Poehner, M. E. & Lantolf, J. P. (2013). Bringing the ZPD into the equation: Capturing L2 development during Computerized Dynamic Assessment. *Language Teaching Research,* 17(3), 323–342.

Poehner, M. E., Zhang, J., & Lu, X. (2015). Computerized dynamic assessment (C-DA): Diagnosing L2 development according to learner responsiveness to mediation. *Language Testing*, 32 (3), 337–357.

Vygotsky, L. S. (1986). *Thought and Language*. Cambridge, MA: MIT Press.

Yang, Y. & Qian, D. D. (2019) Promoting L2 English learners' reading proficiency through computerized dynamic assessment. *Computer Assisted Language Learning*, 33(5-6), 628–652.

Zhang, J. & Lu, X. (2019). Measuring and supporting second language development using computerized dynamic assessment. *Language and sociocultural theory*, 6(1), 92-115.