RESEARCH PROPOSAL FOR APPLYING
FOR A JIEDE EMPIRICAL RESEARCH GRANT
FOR CHINESE PEDAGOGY/CHINESE APPLIED LINGUISTICES

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I. Title of the Study

Dynamic Assessment of L2 Chinese Implicature Comprehension

II. Aim and Scope of the Study

Dynamic assessment (henceforth, DA) is an assessment tool that offers a dual evaluation of not only a learner's current abilities (i.e., solo performance) but also what become possible with assistance, considered to be evidence of abilities in the process of formation. The dual evaluation of DA offers insights into how different learners respond differently to assistance, which teachers can use to determine the best pedagogical practice for individual learners. Most second language (L2) DA research has been conducted with interactionist DA, in which support is offered flexibly in the moment-to-moment interactions between a tutor and a tutee. However, many researchers underestimate the significance of interventionist DA, within which pre-scripted standardized intervention is provided in a graduated and contingent sequence (see Lantolf & Poehner, 2004). Existing standardized interventionist DA work (Poehner & Lantolf, 2013; Poehner, Zhang, & Lu, 2014; van Compernolle & Zhang, 2014) has yielded promising findings in relation to the scalability of dynamically administered assessments of L2 abilities. To date, however, this work has not examined pragmatics assessment. Pragmatics assessment is important because it measures language learners' ability to appropriately understand and use their L2s. DA can raise learner awareness of pragmatic concepts through including instructional intervention in the assessment, which is why pragmatics is the focus of the current DA instrument.

The current study is driven by three goals. The first is to design and apply a DA instrument for pragmatics, with specific focus on implicature (i.e., implied or indirect meaning) comprehension in L2 Chinese. Following Poehner and Lantolf (2013), this will be done with computerized DA (C-DA) in order to enhance the scalability of the pragmatics test. Implicature comprehension was chosen because a number of studies in L2 pragmatics have assessed implicature comprehension through nondynamic assessment tools (see Roever, 2005; Taguchi, 2009; Taguchi, Li, & Liu, 2013), which can serve as models. The C-DA test aims to contribute to the extant literature on L2 pragmatics assessment by documenting the potential for C-DA to provide more informative assessment of learner abilities that includes emerging capacities (i.e., what learners can do with support), which are typically not revealed under non-DA conditions.

The second goal is to conduct a systematic investigation of both the products and the processes of participation in C-DA. In the extant DA literature, small-scale studies have primarily focused on the moment-to-moment interactional processes between a tutor and tutee, while the few larger-scale studies have focused exclusively on end products (e.g., test scores), with little consideration of the process. To break this dichotomy, the present study will incorporate analysis of a subgroup of test-takers' responsiveness to standardized intervention during the C-DA test. Thus, in addition to having test scores (i.e., product data), I will be able to examine how those scores were produced as participants interacted with the C-DA instrument in real time.

The third goal of the study is to explore how L2 Chinese learning experience might influence implicature comprehension in the context of C-DA. DA emphasizes individual's change while intervention is involved in the assessment. Thus, beyond examining the end products and the processes of participation, it is critical to investigate why certain test-takers respond to specific intervention while others do not, and how that is related to their individualized Chinese learning experience. Such analysis will be conducted through semi-structured interviews (Dörnyei, 2007).

The data generated will provide insights into designing pedagogical practice that could be adapted to Chinese learners with different language learning backgrounds.

III. Theoretical and Empirical Background

1.Dynamic assessment

Over the past half century, DA has been applied in psychological and educational assessment as a means of evaluating test-takers' cognitive modifiability (Haywood & Tzuriel, 2002). In other words, it is a form of assessment focused on ability or readiness to learn rather than manifest performance. Although many different conceptualizations of DA exist, the common thread uniting them is that it involves "an active intervention by examiners and assessment of examinees' response to intervention" (Haywood & Lidz, 2007, p.1). The approach derives from Vygotsky's (1978, 1986) sociocultural theory (SCT), especially the concept of the zone of proximal development (ZPD) and the method of dual stimulation. Vygotsky (1978) argued that in order to discover the relations of the developmental process to learning capabilities, we must determine two developmental levels: the zone of actual development (ZAD), which reflects individuals' current abilities based on independent performance, and the ZPD, which represents the distance between the actual developmental level and the level of performance that becomes possible under guidance from, or in collaboration with, another person. The ZPD is ascertained through dual stimulation: the test-taker is presented with a problem, or primary stimulus, that can be solved only through the use of auxiliary stimuli, and it is the test administrator's job to guide the test-taker to use the auxiliary stimuli appropriately. The quantity and quality of guidance is in turn used as evidence for inferring the ZPD (i.e., how close is the person to independent functioning).

In comparison with traditional assessment, DA measures how individuals learn and change with assistance rather than what they can do alone. Test-takers' responsiveness to intervention during DA has the potential to provide insights into the obstacles they might have encountered. The role of DA also includes finding ways to overcome those obstacles through metacognitive mediation (i.e., raising awareness of one's difficulties and how to overcome them), and assessing the effects of removal of obstacles on subsequent performance (Haywood & Lidz, 2007). In addition, Vygotsky asserted that development involves going beyond improvement on assessment tasks to include the recontextualization of abilities of novel and/or more complex situations. This is why researchers such as Feuerstein and Rand (1974) began arguing over four decades ago that the outcome of mediated learning includes not only helping learners achieve what they are not able to without assistance but, more importantly, orienting them to more complicated situations in which the newly formed abilities are relevant. To that end, the current research design includes transfer tasks to track learner change when similar principles in preceding tasks are applied to implicature items with different conventionality (details are discussed in the following section).

2. Implicature comprehension in L2

The inferred meaning, which conveys a speaker's intent, is what we refer to as conversational implicature (Grice, 1975; Bouton, 1988). For instance, 'It's cold here.' can be interpreted as an indirect way to communicate the meaning of 'Please close the window.', depending on the shared understanding of the context. Understanding implicature can be challenging for L2 learners because it requires them to go beyond the literal meaning and attend to such resources as linguistic cues, contextual information, relevance of the utterance in the conversation, and background knowledge before arriving at the implied intent (Taguchi et al., 2013).

In interlanguage pragmatics, recent studies (see Taguchi, 2005, 2007; Taguchi et al., 2013) have explored the relationship between the conventionality of implicature and L2 learners' comprehension speed and accuracy. Conventionality has been conceptualized as the degree of inferencing required for arriving at correct interpretations. The literature shows that non-conventional indirect opinions require more processing effort than the conventional indirect refusals, meaning that they are more difficult for L2 learners to comprehend (Taguchi, 2005, 2007; Taguchi et al., 2013). Both types of implicature are included in the current C-DA design.

IV. The Description of the Study

1. Research questions

In line with the research objectives, five research questions are proposed. Research questions 1-3 address the quantitative test scores that will be generated from the C-DA instrument. Research questions 3-5 in turn focus on the qualitative dimension of the study. Note that research question 3 will be addressed from both quantitative and qualitative perspectives.

1. What differences, if any, exist between independent performance and mediated (i.e., assisted) performance in terms of implicature comprehension?
2. How does L2 Chinese learner responsiveness to intervention (e.g., gain scores) reveal emerging ability throughout C-DA?
3. What are the recognizable obstacles to better performance, e.g., literal meaning, cognitive difficulty, during C-DA?
4. How do L2 Chinese learners' response processes in the intervention session reveal their emerging ability?
5. How do learning experience, revealed in interviews, influence L2 Chinese learners' implicature comprehension?

2. Setting and participants

Participants will be university students in the U. S. who are currently learning Chinese. Two groups of learners will be recruited. The first group, "test only", will complete the C-DA test in a computer lab. The estimated sample size for this group is 80 participants. A smaller second group, "test plus", will complete the C-DA test in a computer lab with the screencasting software ScreenFlow recording their interactions with the instrument. After completing the test, the "test plus" group will participate in a follow-up interview. Approximately 20 participants will be included in this group.

3. C-DA design

3.1 C-DA procedures

The C-DA instrument is a Chinese pragmatics listening test. Figure 1 below shows the C-DA procedures. The assessment will be completed at once. Test A evaluates test-takers' current abilities based on their independent performance. The intervention session includes predesigned mediational prompts. Tests B and C then circumscribe the ZPD (i.e., what has become possible following intervention) as revealed by test-takers' performances on these two tests. Test B is considered to be a near transfer task since it involves the same speech act as Test A (i.e., conventional indirect refusals), but with new items. Test C is considered to be a far transfer task in that it involves a new speech act (i.e., indirect opinions) and is theoretically more difficult.

All procedures together are considered part of the assessment. In other words, the study is not about the instructional effectiveness of the intervention stage (e.g., based on mean scores and inferential statistics for the group), but instead it aims to assess individual learner's change from the pretest to the posttests as evidence the ZPD/readiness to learn.
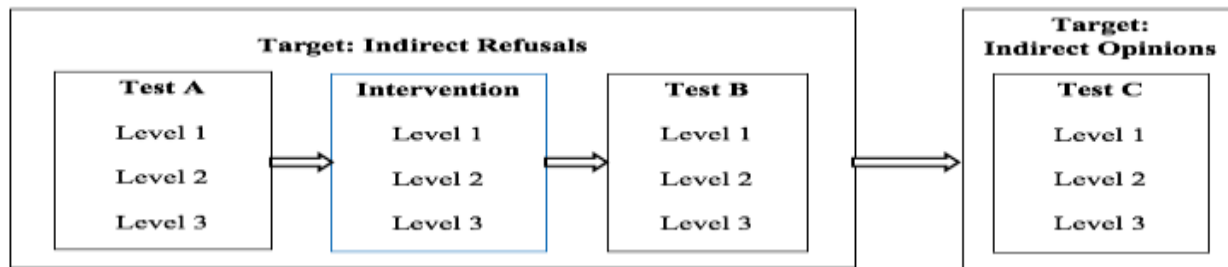

Figure 1. C-DA procedures.

3.2 Three levels of difficulty

Each task involves three levels of cognitive difficulty, which is operationalized as the amount of Chinese test-takers have to listen to in order to understand the indirect meanings. Table 1 below shows the details of target item design.

Table 1. Target items in each task of the C-DA.

Degree of Difficulty	Description	Number of Target Items
Level 1	Context description in English, target utterance in a short Chinese sentence (less than 10 Chinese characters)	4
Level 2	Context description in English, target utterance in a long Chinese clause (more than 20 Chinese characters)	4
Level 3	Context in a full Chinese dialogue (less than 60 Chinese characters), target utterance in a short Chinese sentence (less than 10 Chinese characters)	4

3.3 Intervention

The amount of help offered in the Intervention session is decided by individual's performance on Test A. Test-takers only have to go through the mediational procedures designed for the items they failed to answer appropriately earlier. Standardized prompts are predesigned based on individual items. Up to two prompts are available for each item and the kinds of intervention are the same for all test-takers. The two prompts within each item are designed in similar ways, namely, the first prompt mainly repeats the content of the utterance (i.e., the locutionary act), and the second prompt asks the intent of the utterance (i.e., illocutionary act).

3.4 Comprehension questions

The comprehension questions apply a slide-ruler format. For Level 1 and Level 2 items, test-takers will see as text and hear an audio recording of the context and description of each item in English. The target utterance is then played in Chinese sentence, but with no corresponding text. After listening to the audio file only once, a statement corresponding to the indirect meaning is presented, and test-takers are asked to use a slide ruler (-50 to +50) to evaluate the extent to which they agree or disagree with the statement. For Level 3 items, test-takers will hear an audio recording of the context in a full Chinese dialogue between two native speakers, and the target utterance is then played in Chinese sentence.

4. Interview methods

Semi-structured interviews will focus on 1) individual's Chinese learning experience and how that might influence C-DA performance, 2) retrospections and evaluations of the C-DA test, 3) test-taking strategies used, and 4) obstacles test-takers' might have encountered.

5. Data analysis

Quantitative analysis (see Poehner & Lantolf, 2013 for review of scoring in DA):

1. Code scores
   - Test A: actual scores; Test B: mediated scores; Test C: far mediated scores
2. Use R to conduct statistical analyses
   - Conduct one-way ANOVA to address research question (RQ)1
   - Quantify learning potential scores that measure responsiveness to instruction to address RQ2
3. Plot test-takers' scores on individual items
   - Generate evidence of individual-level learner change to further address RQs1 & 2
4. Conduct item-by-item analyses of the Intervention session
   - Quantify the amount of help test-takers need on each item and each level of difficulty to address RQ3

Qualitative analysis:

1. Conduct multimodal discourse analysis of test-taking processes through Screenflow data (i.e., screens, private speech, gestures, facial expressions, etc.) to address RQ4
2. Analyze interview data to address RQ5 and provide qualitative interpretations of RQ3

V. Preparation and Feasibility

I have completed literature review and I'm currently working on item design. Afterwards, I plan to conduct two pilot studies: first pilot study among native speakers to evaluate the transparency of the indirect meanings and to remove controversial items; second pilot study among L2 learners to reduce learning effects. A technology specialist in my university will help me program the C-DA test online in August. Data collection will be conducted in September. My academic advisor will support me to analyze the data and write the research report.

Timetable
Item design done by May, 2017
Pilot studies and item revisions done by July, 2017
Programming C-DA instrument on LiveCode done by August, 2017
Data collection and analysis completed by December, 2017
Manuscript preparation and write-up by March 2018

VI. Estimated Budget (A total of $1500)

Services required for participant recruitment and data transcription ($1500)
   (1) Compensation for participation (Total: $1200)
      "Test only" group: $10/person*80 people=$800
      "Test plus" group: $20/person*20 people=$400
   (2) Compensation for interview data transcription ($15 per hour for 20 hours, total: $300)

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