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#### **Abstract**

Dynamic assessment, or DA, departs from the traditional distinction between formative and summative assessment, as it understands teaching to be an inherent part of all assessment regardless of purpose or context. This position follows from the theoretical basis of DA in the writings of Russian psychologist L. S. Vygotsky and in particular his proposal of the zone of proximal development. Positing that

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independent functioning indicates only abilities that have already fully developed, Vygotsky advocated procedures in which the assessor, or mediator, engages cooperatively with learners, offering support when learners encounter difficulties in order to determine the extent to which learners can extend their functioning as well as the forms of assistance to which they were most responsive. According to Vygotsky, this approach allows for a more in-depth diagnosis of learner development by revealing abilities that have not yet completed their development but are still emerging. In the decades since Vygotsky's death, his insight has generated a range of DA procedures undertaken with learners with special needs, immigrants, young children, and gifted learners as well as with individuals studying particular academic subjects, including second languages. L2 DA studies have generally been pursued in collaboration with classroom teachers, emphasizing dialogic interaction in one-to-one or small group settings. More recent projects have built upon this work to implement DA procedures in large-scale testing contexts. Current work is examining computerized administration procedures as well as uses of DA linked to curricular revisions intended to support learner appropriation of conceptual knowledge of language.

### Keywords

Vygotsky • L2 development • Mediation • Zone of proximal development

### Introduction

Lantolf and Poehner (2014) explain that a defining feature of sociocultural theory (SCT), as elaborated by L. S. Vygotsky (1987), is the central role it assigns to practical activity, especially education. In SCT, theory and research serve as an orienting basis for practice, which in turn provides the essential testing ground for theory, determining whether it should be accepted, revised, or rejected. According to Lantolf and Poehner (2014), this notion of "praxis" explains Vygotsky's keen interest in education, which he believed should aim to promote learner psychological development. The authors continue that this commitment to "developmental education" has guided much recent L2 SCT research, including work on dynamic assessment (henceforth, DA).

In DA, a teacher or assessor, referred to as a mediator, engages cooperatively with learners and intervenes when difficulties arise and their performance breaks down. Through a process of mediation, which is qualitatively different from corrective feedback, a diagnosis of learner development emerges that includes abilities that are fully formed, as indicated by learner independent performance, and abilities that are still emerging, determined by learner responsiveness during the mediating process. The activity of joint functioning with a mediator guides learners to perform beyond their current capabilities, thereby promoting their continued development. In this way, DA integrates teaching and assessing in a coherent framework. Since its introduction to the L2 field (Lantolf and Poehner 2004), DA has contributed to

discussions concerning how classroom assessment may support student learning while also opening new directions in formal testing.

### **Early Developments**

Vygotsky's writings on the zone of proximal development (ZPD) provide the theoretical underpinnings of DA. The ZPD is based on the principle that higher forms of thinking (voluntary memory, attention, planning, learning, perception) are always mediated. Initially, they are mediated through our interactions with others and with physical and symbolic artifacts (e.g., books, computers, diagrams, language, etc.). These interactions are internalized and give rise to new cognitive functions. One's relationship with the world is still mediated, but this is accomplished on the internal plane of self-regulation. Consequently, Vygotsky (1998, p. 201) reasoned that assessments of *independent problem-solving* reveal only a part of a person's mental ability, namely, functions that have already fully developed. He termed this the *actual* level of development and contrasted it with the person's *potential* or *future* development, which he submitted could only be understood through their responsiveness during joint engagement with a mediator around tasks they are unable to complete independently.

An important corollary is that potential development varies independently of actual development, meaning that the latter, by itself, cannot be used to predict the former. This contrasts sharply with the belief in many approaches to assessment that a learner's future is more or less a linear continuation of the past, and hence the use of measures of independent performance on tests – reflecting the products of past development – to predict likely performance in the future. Vygotsky's discovery of the ZPD compels us to understand the future as not yet written but rather as resulting from continued access to appropriate forms of mediation, and its prediction is empirically based on learner responsiveness during cooperation with a mediator.

To our knowledge Vygotsky himself never used the term DA. The term may derive from his close colleague, A. R. Luria's (1961), description of ZPD assessments to differentiate children whose poor school performance resulted from biologically rooted disabilities, learning challenges, and language and culture differences. Critical to this diagnosis and to subsequent intervention planning was each child's responsiveness to mediation. Vygotsky and Luria's research laid the foundation for a range of formalized principles and procedures developed by researchers working with various populations around the world that have come to be known collectively by the name dynamic assessment (Haywood and Lidz 2007; Poehner 2008b). This work has been undertaken largely within special education and cognitive psychology and yielded a robust body of research dating from the 1960s.

In their review of DA research, Sternberg and Grigorenko (2002) note that the integration of mediation can be organized within the administration of an assessment or delivered as a distinct phase embedded between a pre- and post-administration of the test. They refer to these two models, respectively, as "cake" and "sandwich" formats. Representative of the cake format, Brown and Ferrara (1985) describe the

use of mediation prompts and hints that are prescripted and arranged from most implicit to most explicit. The prompts are then offered to learners one at a time until the learner produces the desired response. An early example of the sandwich format is Budoff's (1968) program that embedded a training module after the pretest to teach relevant principles. Sternberg and Grigorenko (2002) point out that both formats offer advantages: the sandwich format allows for comparisons between test performances prior to and following mediation, while the cake format streamlines the procedure and introduces mediation as soon as learners experience difficulties.

Lantolf and Poehner (2004) further differentiate DA models according to how mediation itself is conceived. They explain that much DA research, in both the sandwich and cake formats, limits mediation to a "one-size-fits-all" approach. By standardizing both the content of mediation, whether it be a training module or set of hints, and its delivery (i.e., provided in precisely the same manner to all learners). this work has aligned more closely with traditional testing practices and allowed greater use of inferential statistics for analyzing and comparing results. Lantolf and Poehner refer to these approaches to DA as "interventionist," highlighting that mediation is understood as prepackaged treatment. They point to another tradition in DA as "interactionist," and they suggest it more closely aligns with Vygotsky's understanding of cooperation in the ZPD. In interactionist DA, mediation follows the general principle of beginning in a more implicit manner and becoming increasingly explicit as determined by a learner's responsiveness to specific levels of mediation. Mediation is not scripted in advance but emerges through open dialogue with learners. This allows mediators considerable freedom to interact with learners, bring to the surface processes that underlie performance, and provoke further mediation (Poehner 2008b). According to Miller (2011), the mediated learning experience model of interactionist DA developed by Reuven Feuerstein (see Feuerstein et al. 2010) is a direct continuation of Vygotsky's and Luria's ZPD work. This research has been particularly influential in the development of L2 DA.

## **Major Contributions**

The first project to explore the use of DA in L2 education was undertaken by Poehner in his doctoral dissertation, which provided the basis for a book-length study (Poehner 2008b). This work details the theoretical origins of DA, overviews leading approaches, and documents the use of DA with university-level learners of L2 French. Two important contributions of that project are that it reconnected DA practices with Vygotsky's theory (a matter overlooked in much DA research outside the L2 field) and it provided detailed documentation of mediator-learner interactions, thus breaking with the convention in previous DA studies of reporting only outcomes of the procedures. Poehner's (2008b) analysis outlined particular moves on the part of the mediator and how they informed the diagnosis of learner development. As a follow-up, Poehner (2008a) examined the notion of "learner reciprocity," a concept that was proposed in earlier DA studies but for which there was little

empirical data. Learner reciprocity refers to the range of behaviors learners may exhibit that go beyond correct or incorrect responses to mediation. Examples include eliciting mediator support, negotiating mediation, refusing offers of assistance, posing additional questions, and seeking mediator approval. Together, the specific mediating moves and forms of learner reciprocity that characterize a DA session provide a nuanced profile of learner emerging abilities.

Close analysis of mediator and learner participation in DA, and the use of this information to interpret learner development, has been a consistent theme in L2 DA research. The major portion of this work has been conducted in instructional contexts, with the implementation of DA reflecting collaboration between researchers and teachers. The basis for much of this work has been Lantolf and Poehner's *Teacher's guide* to DA, now in its second edition (2011). The *Guide* includes a monograph that introduces DA principles and models, provides questions for discussion and resources for additional information, and walks readers through analysis of transcribed teacher-learner interactions showcasing the quality of mediation. The *Guide* also offers a series of video appendices illustrating examples of L2 DA. A *Casebook* of L2 DA studies (Poehner to appear) extends this with additional videos and analyses of collaborations with teachers that in fact emerged from previous workshops and uses of the *Guide*.

L2 DA has been pursued with learners at beginning through advanced levels of instruction, in primary school settings and universities, and with commonly taught languages such as Spanish and French as well as less commonly taught languages and even an indigenous Alaskan language for heritage speakers. Listening and reading comprehension, oral narrative abilities, pragmatic competence, and control over discrete grammatical features have each been a focus of mediation in DA research. A frequent question raised by the language teaching and assessment communities concerns the feasibility of moving beyond one-to-one interactions to include larger configurations of learners. In classroom settings, teachers are often responsible for groups of 20–30 learners, and sometimes more. In more formal assessment contexts, standardization is accepted practice in part because it allows large numbers of individuals to be assessed simultaneously. L2 researchers have begun to develop approaches to implementing DA principles under both these conditions.

Poehner (2009b) conceived of one approach to addressing numbers of learners in classroom settings by shifting the focus of mediation from the development of individuals to the group. Noting that Vygotsky (1998) himself raised the possibility of appropriately mediating a group ZPD, Poehner argues that DA in a group setting (G-DA) requires engaging learners in tasks that no individual can complete independently but that can be made accessible to every member of the group through appropriate mediation. In this way, there is both a struggle to stretch beyond one's current capabilities and a need for external forms of mediation. Poehner (2009b) discerns at least two forms of G-DA. "Concurrent" G-DA occurs as a mediator that engages a group or an entire class in an activity and negotiates mediation with the group. Pointing to an analysis of classroom interaction reported by Gibbons (2003) involving ESL learners working to appropriate scientific discourse, Poehner notes

that in concurrent DA the mediator may address particular individuals, providing prompts to one, leading questions to another, and so on. The specific mediating behaviors directed at an individual are not the focus, however, as it is the interaction in its entirety that provides insights into the understandings and abilities of the group.

In concurrent G-DA, given variability across learners, not every mediating move will be relevant to each individual. Some will move more quickly toward independent performance than others. We will have more to say about this later, but for now we point out that the matter is at least partly addressed in "cumulative" G-DA. Here, interactions unfold between the mediator and individual learners one at a time, and on the face of it, this approach appears to be a one-to-one administration. The crucial difference, however, is that the interactions occur in a class setting, with the expectation that other learners are engaged as "secondary interactants." In other words, even though the rest of the class may remain silent while the mediator engages with an individual, the interaction itself has the potential to mediate each learner's thinking. This approach to G-DA thus aims for a cumulative effect of mediation wherein learners who work with the teacher later in a lesson may also reference the mediational processes from previous exchanges in the class. Indeed, Poehner (2009b) offers an example of cumulative G-DA from an L2 Spanish elementary school class. His analysis of three learners who each take a turn participating in a game in the L2 reveals a steady reduction in the degree of teacher mediation required as the game progresses. Poehner suggests that in reality, the second and third learners may have already benefitted from mediation prior to the start of their turn.

With regard to large-scale testing, Guthke and Beckmann (2000) recognized the potential of increasingly sophisticated computer programs to assume the role of mediator. Mediation made available in a computerized DA (C-DA) administration certainly does not allow for the careful alignment with learner need characteristic of interactionist DA. Nonetheless, it offers the possibility to move beyond ascertaining the correctness of a learner's response and indicates if s/he is able to reach the solution when mediation is offered. Guthke and Beckmann describe a tutorial approach developed for use with a C-DA version of their Leipzig Lerntest, a cognitive aptitude instrument. Although the authors do not provide specific examples from the test or data from its administration, they explain the principle as suspending the test when a learner incorrectly answers a question in order to introduce a brief tutorial that explains relevant principles and walks learners through practice problems. Once the tutorial ends, the test resumes and the learner is presented with a parallel version of the item she/he had missed. In this way, it is possible to distinguish learners who answered questions correctly without intervention, those whose performance improved following the tutorial, and those whose difficulties persisted in spite of the available mediation. The authors maintain that this more nuanced diagnostic of learner abilities is helpful to designing remediation programs specific to learner needs.

Poehner and Lantolf (2013) see a similar potential for C-DA in the L2 domain, underscoring a diagnosis that takes account of learner emerging abilities as having immediate relevance for placing learners at appropriate levels of study in language

programs. They designed C-DA tests of listening and reading comprehension across three languages: Chinese, French, and Russian. The tests were modeled after existing standardized measures of L2 comprehension and followed a multiple-choice format. They departed from the convention of providing four options for each test item (the correct answer and three distractors), preferring instead to add a fourth distractor. This increased the number of times an examinee could attempt the items and the number of mediating prompts that could be offered. Following Brown and Ferrara's (1985) graduated-prompt approach, the program generates two scores: an "actual" score, reflecting whether an examinee's first response was correct, and a "mediated" score calculated to indicate the number of attempts an individual made – and, hence, the number of mediating prompts required – in responding to a test item (Poehner and Lantolf 2013). The logic of this approach was that a learner who answered on, for instance, a second attempt was likely to have better comprehension of a text than a learner who required three or four attempts or who was not able to reach the correct answer even after all four mediating prompts were provided. In addition, an explanation in English was offered to learners after the item was correctly answered and before the next item was presented. Thus, learners had access to learning opportunities during the test itself, an important feature of DA.

The C-DA tests are available online and are cost-free (www.calper.la.psu.edu). Analyses of scores generated by the tests provide evidence in support of Vygotsky's prediction that learner mediated performance varies from independent performance in ways that cannot be determined a priori. In the context of the L2 comprehension tests, this means that actual scores are not always indicative of mediated scores; therefore learners with the same actual score may have different mediated scores reflecting different degrees of prompting. An attractive feature of the C-DA tests is that items are grouped according to the underlying construct (within listening or reading comprehension) and a profile is automatically created by the program for individual learners. This allows one to observe learner performance in specific areas of language ability, such as the lexicon and sentence-level or discourse-level grammar. In addition to informing placement decisions, learner profiles are useful for classroom teachers in shaping instruction to the needs to individual learners or groups of learners.

# **Work in Progress**

DA has stimulated interest across a range of different areas of L2 research. In this section we limit our discussion to three areas that we believe will continue to be important for the future of DA. The first builds upon the concept of G-DA to bring DA into day-to-day classroom activities. As an example of this work, we consider one of the "cases" documented in the DA *Casebook* (Poehner to appear) that documents a teacher's effort to reorganize her advanced level L2 Japanese composition course.

Originally designed according to a "process approach" to writing, the course required learners to produce multiple drafts of their work, which they shared and

revised through the following stages: a one-to-one writing conference with the teacher, a peer-editing session in class that involved students working in pairs or small groups to read and comment upon one another's work, and whole-class discussions of advanced features of Japanese grammar. As Poehner (to appear) explains, the teacher, Sayuri, undertook to revise each of these writing stages according to how the students responded to mediation. One-to-one writing conferences were refashioned as interactionist DA sessions in which initial drafts were reviewed and specific language problems were identified. These individualized sessions allowed Sayuri to identify which features of Japanese were within learners' emerging ability to control the language, determined by their responsiveness to mediation. Learners were then placed into groups of two or three based on similar sources of difficulty and given a packet of sentences containing errors drawn from their compositions. In this way, the more traditional peer-editing step in process writing became focused on problems that were within the ZPD of each member of the groups. After the students reviewed the sentences, made corrections, and prepared explanations of their proposed revisions – an activity intended to prompt learners to support one another's understanding of relevant features of the L2 – Sayuri reviewed the packets with the entire class. This final stage of the approach represented a larger G-DA and served to clarify misunderstandings, discuss alternative corrections, and make connections across similar types of learner problems.

As analysis of data from this project continues, particular attention is being given to the quality of learner interaction during the G-DA peer review as well as the kinds of contributions made by the teacher during the larger G-DA context. The latter is of interest because it differentiates between problems that were appropriately resolved during peer work and those that needed further mediation from the teacher. With regard to the former, it would seem plausible that by grouping learners according to their ZPD, it biases them in favor of working cooperatively to revise their papers. Whether this occurred and promoted the development of all learners is a crucial question that is yet to be resolved.

Another area of interest concerns the teacher's experience with DA. The focus here is on the preparedness of L2 teachers to deploy SCT principles along the lines of the developmental education argued for by Lantolf and Poehner (2014). The *Casebook* includes interviews with teachers reflecting on their understanding of DA, the reasons behind their decision to integrate it into their practice in a particular manner, and the challenges they may have experienced in so doing. Analysis of the interviews is currently underway, and it is anticipated that the information will provide a resource for teachers and researchers to better understand the demands of implementing DA and how these might be addressed.

Davin and Herazo (2015) are investigating how teachers' experiences with DA may raise their awareness of the discursive practices that characterize their interactions with learners, which the authors consider to be an essential step toward creating classroom discourse patterns to promote learner agency. The participants, which include in-service English teachers in Montería, Colombia, and preservice Spanish and Italian teachers in Illinois, USA, studied the DA *Guide* (Lantolf and Poehner 2011) and participated in professional development seminars to support DA

implementation. Using a qualitative case study design, Davin and Herazo compare the participants' pre-DA and post-DA classroom discourse patterns. Preliminary analysis of lesson transcripts and stimulated recall sessions suggest that DA prompted more dialogic classrooms, fostering an environment characterized by a more equal balance of teacher and student talk and extended interaction sequences between the teacher and learners.

A third area receiving attention from researchers concerns applications of DA in large-scale testing contexts. Levi (2012) suggests that because DA creates possibilities to promote learner development, it functions to produce a kind of positive washback wherein an existing formal testing program becomes not only a means of measuring learner abilities, but it may also provide an opportunity for learning to occur that complements learning opportunities already present in classrooms. Working within the context of large-scale oral proficiency interviews among secondary school students in Israel, Levi (2012) constructed mediating resources around the rubrics employed to assess dimensions of language proficiency, including fluency and accuracy. She then designed a DA procedure following the sandwich format described by Sternberg and Grigorenko (2002) and added a fourth step: a delayed posttest, or transfer test, intended to determine the durability of any gains made by learners.

Levi (to appear) reports a study using this procedure in which she recruited a total of 73 Israeli secondary students and divided them into three groups: a control group, which received no mediation between the pre- and posttests, and two mediation groups. The two mediation groups were further differentiated according to whether learners worked independently or as part of a group. In both cases, mediation occurred across four sessions and included the presence of a tester mediator to facilitate learner engagement in the activities and their use of the assessment rubric. In the first session, learners reviewed a recording of either their own pretest performance or that of another participant. They worked to apply the rubric to an evaluation of the performance, which positioned them for interactions in the subsequent sessions as they attempted to use the rubrics to monitor their own speaking practice. Levi (to appear) reports that students in both the mediation groups improved their posttest performance, while those in the control group actually scored lower. More modest gains on the transfer assessment were also found for students who had received mediation. This research offers compelling evidence that indeed DA can be "scaled up" to function in large-scale testing situations and that this may be done in a manner that preserves DA's commitment to both diagnosing and promoting learner development.

### **Problems and Difficulties**

As explained, a challenge for DA has been moving beyond one-to-one contexts of the sort documented in Poehner's (2008b) initial exploration of the framework. C-DA and G-DA offer viable ways forward, and we encourage additional work in both these areas. That said, one critique commonly leveled against DA is that it

merely represents "good teaching" and nothing more. We concur that DA does indeed constitute effective teaching, but we further insist that effective instruction necessarily entails effective assessment – assessment with a future rather than a past orientation. In other words, assessment that promotes learner development. The L2 research literature is replete with contradictory findings and recommendations to teachers concerning implicit forms of feedback such as recasts or explicit corrective feedback. Likewise, research on formative assessment has long found that teachers are likely either to emphasize affective support and encouragement at the cost of helpful feedback or to over- or underestimate learner abilities (Torrance and Pryor 1998).

Our experience collaborating with teachers suggests that prior to learning about and experimenting with DA, it is highly unlikely that they systematically provide appropriate mediation to learners. While there is variability concerning how sensitive teachers are to learner needs, without a coherent theory to guide their actions, mediation is either offered in a hit-or-miss manner, sometimes attuned to learner responsiveness but not always, or it is provided in a one-size-fits-all approach in order to treat all learners the same (see Lantolf and Poehner 2013). It often requires considerable effort to help teachers move toward interactions that take account of changes in learner needs and responsiveness during joint activity. Indeed, the classroom teacher in Poehner's (2009b) study preferred an interventionist approach to DA even though she was not using it for a formal assessment purpose; standardization was appealing precisely because it mitigated the demands of an open-ended procedure. That said, both the *Guide* and the *Casebook* offer examples of impressive creativity and thoughtfulness on the part of teachers in implementing DA once they have come to understand its principles and theoretical foundation.

Another critique of DA stems from the fact that it does not adhere to accepted testing practices, in particular standardization of procedures. This concern seems less relevant to instances of C-DA or interventionist DA more generally, which as explained commit to standardization with regard to mediation and the interpretation of results. Nonetheless, the fact that DA departs from conventions of standardized testing has been a concern since before its introduction to the L2 field. For instance, Büchel and Scharnhorst (1993, p. 101) concluded that DA could not be taken seriously until it committed to measurement, which they proposed demands "standardization of the examiner-subject interaction." Glutting and McDermott (1990, p. 300) similarly criticized the "creative latitude" in approaches to DA such as Feuerstein's because some learners receive more help than others. Within the L2 field, this line of criticism is echoed by Fulcher (2010, p. 75), who expresses the view that because mediator and learner function jointly insights from DA cannot be generalized beyond a particular "instance of occurrence" involving the given task and participants. Moreover, he faults DA for not taking account of how the presence, absence, or strength of particular factors can yield testable predictions of learner development.

Lantolf and Poehner (2014) respond to Fulcher's critiques in detail, including claims he makes about SCT in general. We will not repeat those remarks here, but we do wish to point out that Poehner (2007) dealt extensively with the topic of

generalizability. As he explained, research in both interventionist and interactionist traditions frequently present learners with tasks that are either designed to employ the same underlying principles as those used throughout the assessment but in new combinations or applied to more difficult problems. The point of requiring learners to extend their performance beyond a given set of tasks, a practice alternately referred to as "transcendence" or "transfer," is to ensure that the effects of mediation are not task specific, limited to the here and now, but rather that they represent actual change in psychological functioning. Recall that the purpose of DA is not to help learners do better on a given assessment task, which distinguishes DA from scaffolding (see Lantolf and Poehner 2004), but to promote their development, that is, to generalize the mediation they have appropriated in a given task and context to new tasks and contexts. For this reason, the different forms of mediation and how learners respond (the presence, absence, and strength of variables) are given much attention in DA and are typically traced over time.

### **Future Directions**

Poehner (2009a) argues that the full potential of DA to promote learner development might be realized through a two-pronged approach in which the same principles of mediation guide both formal assessments and classroom activities. Following from the discussion of L2 C-DA, formal evaluation of learner abilities that takes account of the ZPD (i.e., their emerging abilities and the future investment likely required before they reach independent functioning) will in some cases lead to different decisions regarding acceptance of learners into programs and placement at an appropriate level of study. An important topic for future research will be to empirically investigate ZPD-based predictions of learner development. This research would entail following learners longitudinally to document development over the course of L2 study and how their progress reflects their DA performance. Of course, realizing their potential is dependent upon continued mediation that is sensitive to their emerging abilities and that changes in step with their development. In other words, the instruction itself must be of the sort that aims to promote learner abilities in the L2. It is here that two intersecting lines of research can be carried out in tandem with DA: systemic-theoretical instruction (STI) and mediated development (MD).

Briefly, STI compels a reorganization of L2 curricula and indeed a refocusing of the goals of L2 instruction. Based on Vygotsky's analysis of the value of teaching that brings abstract theoretical knowledge in contact with learners' practical experiences, STI shifts away from traditional form-focused L2 instruction in favor of instruction grounded in conceptual knowledge of the language. Following Vygotsky, abstract conceptual knowledge goes beyond what learners would likely "figure out" for themselves from everyday experiences in the world. Moreover, STI presents concepts in a systematic manner that avoids problems associated with discovery learning (Karpov 2014). The goal of STI is to help learners develop understandings of the central concepts in a field of study, how these concepts interrelate, and how together they provide an appropriate orienting basis for action. L2 STI studies to date

have targeted topics such as interactional pragmatics in French, sarcasm in English, and topicalization in Chinese (Lantolf and Poehner 2014). Internalization of L2 conceptual knowledge allows learners to use the language in intentional ways that break from concerns over prescriptive rules and to instead understand language as a resource for the creative, nuanced formation and expression of meanings. The diagnosis of development that emerges from DA affords crucial insights for understanding and guiding learner progress through an STI program. Specifically, DA reveals learner understandings that are behind their use of language, the extent to which they have begun to internalize conceptual knowledge, and specific forms of mediation that promote their use of the concepts during communicative activity.

Related to the integration of DA and STI, Poehner and Infante (2015) propose that mediator-learner cooperation may shift from a focus on diagnosing learner abilities in favor of more strongly emphasizing the teaching component of the interaction. This does not undermine the relation between assessing and teaching as two features of ZPD activity, that is, the activity of understanding and promoting development. Rather, the point is that in any instance of mediator-learner cooperation, one may bring to the fore either the assessing or teaching function so long as one does not lose sight of the other. Selecting a focus requires planning on the part of the mediator to determine the goal of a particular interaction. Drawing on a project that included mediator-learner interaction throughout an STI program for L2 English learners, Poehner and Infante (2015) report that cooperative interaction proved essential for introducing conceptual knowledge to learners, presenting specialized instructional materials associated with STI (e.g., models, charts, and images), modeling how these resources function as tools for thinking, and supporting learner efforts to integrate the concepts into their meaning making in the L2. The authors propose the term MD for such interactions to underscore the focus on teaching to promote development. In Poehner and Infante's analysis, this shift in focus manifested in changes in mediator contributions, specifically with less effort to provide prompts and leading questions to learners and an increase in explanation and verbalization of the mediator's understanding of the materials and their relevance for orienting to activity and reflecting on outcomes. To be sure, this is only an initial exploration of MD. More work is needed to understand the forms that mediation may take in such interactions, how they overlap with DA, and how the alternating foci of assessing and teaching function together to guide learner development.

### **Cross-References**

- ► Language Assessment Literacy
- ► Task and Performance Based Assessment
- ▶ Teacher-Based Assessment in Language Education
- ▶ Using Portfolios for Assessment/Alternative Assessment

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