

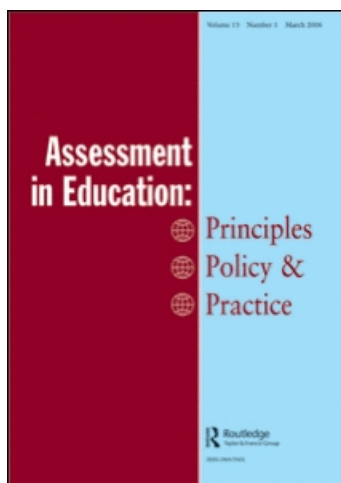
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### Dynamic Assessment: fairness through the prism of mediation

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## Dynamic Assessment: fairness through the prism of mediation

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Dynamic Assessment (DA) originated in the writings of L.S. Vygotsky more than 80 years ago, and despite its popularity among a small community of specialists it is not widely pursued by educational researchers. This paper seeks to strengthen dialogue between DA proponents and the broader assessment community by identifying potential contributions DA may offer to considering such pressing questions as how assessment may support teaching and learning and how fairness in education may be pursued. It is argued that the defining feature of DA that cuts across the varied approaches that have been developed by psychologists and educators working in diverse contexts around the world is a commitment to looking beyond learner independent performance and examining contribution to joint activity as central to diagnosing abilities. This position prompts a view of teaching and assessment as integrated activity and approaches fairness through the provision of culturally available forms of support. Attention then turns to trends in DA research that are elaborated in the articles in this special issue.

**Keywords:** Dynamic Assessment; diagnostic assessment; fairness; interaction; intervention

### Introduction

Writing in the context of US public schools, where large-scale, standardised tests are employed with ever-increasing frequency to determine student learning and teacher effectiveness, Delandshere (2002, 1480) asks the following:

When the same test is given to all sixth graders in a state to find out whether their educational experiences yield similar achievements, is it because we are working from a theory stating that if students have all been taught the same thing, they all will learn it in the same way at the same time? It seems unlikely that any educator would articulate such a theory. Yet without this perspective, how can current forms of state-mandated assessment be justified?

The use of standardised tests to inform high-stakes educational decisions is by no means a new phenomenon and certainly resonates beyond America's borders. The full effect of Delandshere's remarks is that they go beyond simply pointing out discrepancies between assessment and teaching. Indeed, a good deal has been written on the disconnect between practices intended to promote learning and those designed to measure learning outcomes and the potential for these activities to be more closely integrated (e.g., Assessment Reform Group 1999; Black and Wiliam 1998; Torrance

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and Pryor 1998). Delandshere's query raises the more fundamental issue of theoretical assumptions about knowledge and learners that underlie teaching practices on the one hand, and assessment on the other. Following Delandshere, awareness of these assumptions is essential for determining how well educational practices in fact reflect intended values and priorities or whether they need to be refashioned to better meet the needs of individuals. At a time marked by growing concern over the role assessment plays in educational policy and the consequences of assessment for individuals, institutions, and society, Delandshere's query is imbued with a particular urgency.

The articles in this special issue contribute to this discussion by offering a radically different conceptualisation of assessment and its relation to learner development. Dynamic Assessment (henceforth, DA) derives from the Sociocultural Theory of Mind (SCT) formulated by the Russian psychologist L.S. Vygotsky (1987) more than 80 years ago. Vygotsky's writings compel us to view assessment and teaching not as distinct activities but as dialectically fused. Within this framework, efforts to understand, or assess, learner abilities necessarily involve promoting their development through instructional intervention. Put another way, the object of assessment is fully understood by actively seeking to change it. This orientation requires a shift on the part of the assessor, also referred to as a *mediator*, whose responsibility is no longer limited to neutrally observing learner performance but now involves engaging as a co-participant with learners. Interpretations of learner knowledge and abilities are broadened beyond observations of independent performance to include their contributions to, and responsiveness during, joint activity with a mediator. In addition, the instructional quality of the interaction begins the process of helping learners move toward overcoming current difficulties.

Despite the tantalising possibilities for organising educational activities offered by DA, it remains on the margins of psychoeducational assessment and is not well known outside of small groups of specialists. To fully understand the contributions DA stands to make to pressing educational problems – as well as the inherent challenges it poses – sustained dialogue is needed between DA proponents and the wider community of educational and assessment researchers. This special issue is intended to create opportunities to advance such dialogue.

The articles in this issue were selected to represent the range of educational contexts and problems to which DA principles have been applied. In addition, these papers offer a selection of the varied approaches to DA, some of which have been around for decades, while others are more recent and are pushing DA work in new directions. As will be clear, Vygotsky's theoretical proposals have generated many different practices, and indeed his work figures more centrally in some DA approaches than others. What is common across DA approaches is the premise that learner independent performance reveals only a part of their capabilities and that greater insights are gained through interaction intended to support their development. This is a hallmark of SCT, and the prism through which DA addresses questions of fairness and access.

## Dynamic Assessment – theoretical background

### *Vygotsky's social ontology of human abilities*

At the heart of SCT is the premise that human mental abilities develop as a process of gaining awareness of and voluntary control over basic cognitive abilities (e.g., attention, memory, perception) through cultural means. The principle Vygotsky used to

explain this process was *mediation*, positing that instead of acting in the world in a direct manner, humans are unique in acting indirectly through the use of physical and symbolic tools. Wertsch (2007, 178) explains that for Vygotsky mediation is the ‘hall-mark of human consciousness’ because it is through their appropriation of the ‘forms of mediation provided by particular cultural, historical, and institutional forces that their mental functioning [is] sociohistorically situated’. Among important symbolic tools are language, alphabetic and numeric systems, maps, models, charts, mnemonics, and even art (Vygotsky 1981). We are also mediated through dialogic interaction with others. Of course, as Karpov and Haywood (1998) observe, these two forms of mediation are not mutually exclusive but often co-occur as individuals rely on both to participate in activities that are beyond their independent capabilities. Through participation, individuals come to rely less exclusively on these external forms of mediation and more on representations of mediation that they have internalised. That is, the operations that were carried out on the external, *intermental plane* created among individuals come to be carried out on the internal, *intramental plane* as individuals function more autonomously (Vygotsky 1978).

Wertsch (1985) explains that it was this ontological premise that led Vygotsky to a *genetic* approach to research, that is, one that traced cognitive functions through the process of their formation, from when responsibility for a function is distributed among individuals to when it is subsequently internalised as part of an individual’s independent capabilities. For this reason, Vygotsky’s (1987) experiments often involved children working through challenges artificially created by the researcher, who was typically present as an interactant, offering symbolic mediation (e.g., wooden blocks or coloured cards) as well as dialogic support. Given the active role of the researcher and the expressed intent to promote development as an essential part of the experiment, it is not difficult to understand how these same principles – in some cases, the very same activities – could be cast as educational opportunities. In other words, the genetic method was a means to overcoming perceived divides between research and practice as both were guided by a commitment to understanding developmental processes through intervention. As will become clear, this dialectical orientation is also at work in DA.

### ***The ZPD – assessment as collective, developmental activity***

While Vygotsky himself never employed the term DA, his proposal of the Zone of Proximal Development (ZPD) formalised his argument of assessment and teaching as a dialectic unity. The ZPD is most often described in terms of the difference between an individual’s independent performance and his/her performance in cooperation with others (Vygotsky 1978). This description emphasises the distinction between inter- and intramental functioning, or performance that is externally mediated through interaction with others and performance that is largely or entirely internally mediated through interaction with the self. To this, it is important to add that the ZPD is predicated upon a dynamic social situation wherein mediator and learner contributions and responsibilities are in flux, with the forms of mediation changing in step with learner needs and with learners assuming greater responsibility for performance as they are able. In this sense, the ZPD, despite the spatial metaphor invoked, is not a ‘zone’ into which individuals are placed so that learning might occur but a collective undertaking of individuals working together with mediational means (Holzman 2009). This activity involves learner development through participation, participation that is mediated

in a manner responsive to learner needs. Following Aljaafreh and Lantolf (1994), mediation in ZPD activity then is necessarily contingent as mediators must continually position learners to assume as much control over the activity as possible. This is achieved by offering support that is sufficiently explicit to be helpful to the learner but not so explicit that the mediator takes over more of the activity than is necessary.

In addition to its contingent quality, mediation must also be oriented toward uncovering and refocusing the processes learners follow during the activity. In this respect, mediation intends to probe learner reasoning, help formulate plans, draw attention to relevant features of the task, provide hints and reminders, maintain engagement, establish connections with similar or prior tasks, offer feedback, and prompt reconsideration of actions. Given the dialogic nature of ZPD activity, these mediating intentions emerge through negotiation as mediator and learner jointly pose questions, explore possibilities, brainstorm alternatives, and evaluate outcomes (Feuerstein, Rand, and Rynders 1988). Thus, as Poehner (2008a) argues, learner participation in this activity is far more extensive than simply responding to the mediator. The process may be more appropriately described as co-regulation (Fogel 1993) and involves learners' explicit or implicit moves to request, reject, or clarify mediation.<sup>1</sup>

### *Fairness through access to mediation*

In reviewing various ways in which the concept of the ZPD has been adopted and applied under the rubric of DA, Minick (1987) astutely observed that the dynamics of the social situation co-created by mediator and learner are the source of its potential to promote learner development but that they also raise important questions when viewed alongside other forms of assessment. Unlike many conventional assessments, particularly in the arena of high-stakes testing, where standardisation of procedures and identification and measurement of discrete behaviours or responses is favoured, the ZPD is predicated on the notion of change. As explained, mediators actively seek to bring about change during DA. ZPD activity then assumes a decidedly activist stance toward learner development, a position that is more implicit than explicit in some conceptualisations of formative assessment (cf. Torrance and Pryor 1998). In the aptly titled book, *Don't Accept Me as I Am*, Feuerstein (Feuerstein, Rand, and Rynders 1988), a leading figure in DA, argues that this orientation may best be understood in terms of the assessor's role in the activity. For Feuerstein, assessors are no longer *passive acceptors* willingly acknowledging assessment performance as a sufficient and authoritative indicator of an individual's potential and entire life trajectory; instead, assessors are *active modifiers* whose priority is to undo predictions based on assessment performance by cooperating with individuals to create a new developmental trajectory.

Feuerstein's decidedly humanistic view of assessment is certainly in line with Vygotsky, in particular Vygotsky's work with special needs learners, which carries a strongly activist orientation (e.g., Vygotsky 2004). According to Gindis (2003), Vygotsky distinguished between primary and secondary disabilities. While the former were rooted in biology (e.g., blindness, chromosomal disorders) the latter resulted from the social response to the primary disability, a response that all too frequently involves lowered expectations or even restricting access to schooling. In many cases, Vygotsky argued, the socially created, secondary disabilities are far more damaging to the individual's life trajectory because s/he does not have the opportunities to

appropriate the mediational means of development. As Gindis explains, Vygotsky's approach to special education was to reconstruct the social and cultural environment to afford alternative and more appropriate developmental opportunities. In other words, the kinds of activities and forms of mediation that are appropriate to learners without disabilities may not be effective for those with special needs, but this does not mean that these individuals are 'lost causes'. Rather, 'a child with a disability requires different methods of teaching and learning for his or her appropriation of psychological tools. The sociocultural meaning, however, remains the same and is to be delivered via alternative means' (Gindis 2003, 209).

Conceiving of assessment as a form of activism entails recognition that, as Feuerstein et al. (1981, 218) put it, the stakes involved 'affect the lives and destinies of real people'. Rather than systematically withholding developmental opportunities from individuals who perform poorly on tests, educational systems must increase access to available forms of mediation (and act to create new ones). This involves determining the sources of difficulty individuals experience and the forms of mediation to which they are most responsive. In other words, every effort is made to arrange the individual's social situation to create opportunities for ongoing development and in this respect there is close affinity with some models of formative assessment (e.g., Gipps 1994).<sup>2</sup> Fairness in education, from this perspective, does not involve treating all individuals as if they were the same, because doing so ignores that they are not. Fairness requires doing everything possible to maximally support individual learner development, with the understanding that some individuals will need more time and resources than others. Assessment represents a crucial first step toward establishing educational fairness by mediating learners toward success and taking stock of this process as it unfolds in order to determine, with learners, where to go next.

This perspective aligns with what Lantolf and Poehner (2004), following the work of Valsiner (2001), have described as a future-in-the-making model of development. In this view, development is not assumed to proceed along predetermined lines but emerges from participation in activities. ZPD activity renders visible individuals' future intramental functioning during the course of intermental interaction in the present. However, this future is by no means a given. Rather, the future co-created during ZPD activity is a potential that is contingent upon continued access to appropriate mediation. In this way, the ZPD compels us to view educational practices as fair to the extent that they promote the development of all.

### **Dynamic Assessment – promises and challenges**

In the decades since Vygotsky's work, a wide range of practices have been developed in various nations that fall under the heading of DA. Consideration of all these approaches is beyond the scope of this paper, and readers are referred to the work of Lidz and colleagues (Haywood and Lidz 2007; Lidz and Elliott 2000). My remarks are limited to identifying orientations to DA that are subsequently taken up and in some cases extended by the contributions to this special issue. In brief, the distinctions among DA approaches considered here fall along two axes, one that concerns the organisation of DA procedures and another that addresses the quality of mediation.

According to Haywood and Lidz (2007), the most widespread approach to organising DA is as a process of test-intervention-retest, wherein a dynamic, mediating session occurs between two non-dynamic administrations of the same or a parallel test. Sternberg and Grigorenko (2002) have described this organisation as a *sandwich*



format because mediation is sandwiched between two testing sessions. In fact, sessions may be delineated as intended either for diagnosis or intervention – although the sequence as a whole may be referred to as the DA. This format resonates more strongly with formal, measurement-oriented approaches to testing than with classroom-based formative assessments (for discussion, see Poehner and van Compernelle this issue).

Other DA practitioners pursue what Sternberg and Grigorenko liken to a *cake* format, in which there is only a single session and mediation is provided during the administration of the assessment item-by-item or task-by-task, as problems arise. Like the layers of a cake, assessment items or tasks and mediation are layered upon one another throughout the procedure. This metaphor may also be applied to certain approaches to formative assessment (e.g., Rea-Dickins 2006). Indeed, among the formative assessment models identified by Ellis (2003) is what he terms informal incidental assessments that are embedded in instructional interactions. In DA, the layering of mediation in the cake metaphor is highly systematic with support negotiated during joint mediator-learner activity and varying in its explicitness depending upon learner responsiveness. This degree of systematicity, which derives from Vygotsky's discussion of the ZPD, is frequently not apparent in formative assessment.

Of course, both the sandwich and cake formats may be adopted in the administration of a range of assessment instruments. In fact, given that much of the DA literature has targeted general cognitive abilities, there has been a tendency to employ recognised standardised testing instruments regardless of the format followed. This is also the case whether the approach to mediation favours open-ended, dialogic interaction or prescribed inventories of prompts, hints, and clues that structure and sequence the mediator's contributions to the activity. Lantolf and Poehner (2004) refer to these two orientations to mediation as *interactionist* and *interventionist*, respectively. In interventionist approaches, the mediation inventory must be followed in a precise manner, beginning with the first prompt and continuing one by one until either the learner responds correctly or the final prompt, usually the task solution and an explanation, is reached. Lantolf and Poehner (2004) identify potential advantages and disadvantages to both orientations. The high degree of standardisation in interventionist DA renders comparisons of performance relatively transparent, as assessment scores may be accompanied by a summary (and in some cases, a breakdown across task types) of the level of prompting individuals required. The potential disadvantage to standardising mediation is that it severely limits what mediators may do during interaction, with the result that opportunities to gain additional insights into learner functioning or to support development are missed. Similarly, learners are positioned to only respond to the mediation that is offered and mediator and learner are not free to pursue additional problems that arise.

Interactionist DA, in contrast, allows mediators to make every effort to engage collectively with learners. As Lantolf and Poehner (2004) point out, this orientation seems to align more closely with Vygotsky's description of the ZPD as a diagnostic that promotes development. While interactionist DA is systematic, as it is guided by the principle that mediation must be contingent, as explained, it does not readily allow for the kinds of comparisons across individuals that one may wish to make in many assessment contexts. Moreover, interactionist DA places considerable demand on mediators, who do not follow a script but instead must remain attuned to learner needs and contributions throughout the activity. (For full discussion of both orientations, see Poehner 2008b.)

Decisions regarding whether to follow a sandwich or cake format to integrating mediation and whether mediation should be dialogic or scripted are influenced by the context in which DA occurs and the purpose for which it is undertaken. For instance, in the L2 field DA research has generally favoured a cake format and interactionist orientation to integrating DA principles as a framework for classroom activity (although see Ableeva and Lantolf this issue; Antón 2009). L2 DA work thus shares with certain approaches to formative assessment a commitment to sustained teacher–learner dialogue as a central feature of activity. However, the focus on feedback and task completion that characterises many formative assessment models is not in keeping with the orientation to transformative, developmental activity in L2 DA, a point elaborated by Poehner and van Compernelle (this issue). The following sections briefly survey DA applications in formal testing situations and in classrooms. This discussion is intended to better situate the papers in this issue but also to draw attention to ongoing challenges and issues in DA as well as potential contributions this work may make to broader questions in education.

### *Dynamic Assessment and formal testing*

van der Veer and Valsiner (1991) note that Vygotsky's earliest discussion of the ZPD was in the context of formal IQ testing, where he argued on the basis of empirical evidence that the ZPD offered a better predictor of children's subsequent school performance than IQ scores (see Poehner 2008b for details). Since its introduction to Western researchers (Luria 1961), the ZPD – through the framework of DA – has driven several research programmes that continue along these lines, that is, applying DA principles to obtain alternative and more accurate measures of intelligence or general cognitive abilities. Perhaps owing to the dominant traditions in psychological testing, these approaches to DA have favoured the standardised, interventionist model as well as the sandwich format, with its close resemblance to a traditional pre-test – treatment – post-test model of experimentation. In this way, the general principle of providing mediation to individuals when they encounter difficulties is preserved, but DA is leveraged as a means to produce scores through procedures that adhere to traditional testing criteria.

As Tzuriel (this issue) explains, these approaches to DA may be fruitfully integrated with cognitive education programs, where the results of DA procedures, including both independent performance as well as responsiveness to mediation, form the basis for an ongoing intervention tailored to individuals' areas of difficulty. Tzuriel further points out, echoing Vygotsky's IQ research, that these applications of DA frequently report the accuracy of predictions of learners' academic performance on the basis of their responsiveness to mediation rather than their independent performance. DA proponents have long cited such findings as evidence of the validity of their procedures (Budoff 1987; Guthke 1992).

Poehner (forthcoming) has taken a somewhat different tack, proposing a conceptual model for thinking about validity in DA that draws on the argument-based approaches to validity of Kane (1992) and Mislevy (1996). Poehner distinguishes between *micro* and *macro validity* in DA. According to this perspective, macro validity implies examining an entire DA procedure and linking three forms of evidence to interpretations of learner abilities: independent performance, forms of mediation required, and responsiveness to mediation. Taken together, these offer a broadened evidential basis for interpretations as well as for specific decisions about individuals. Micro



validity concerns the appropriateness of each particular form of mediation within a DA session and is understood with reference to the response from learners. A particular prompt or leading question contributes to micro validity if it offers insight into learner functioning that helps to confirm, refine, or reject any initial, provisional diagnosis formed by the assessor. For Poehner, micro and macro validity are interrelated, as the former helps to establish the latter, and they are both applicable in formal assessment contexts and classrooms.

A closely related issue concerns the construct that underlies performance. As noted, most instances of DA in testing have addressed intelligence or general cognitive abilities and a question that has been raised by DA proponents and critics alike is whether these procedures are in fact measuring the same phenomenon as non-dynamic assessments. Indeed, Feuerstein et al. (1981, 218–19) observe the following:

There is a very real sense in which attempts to produce cognitive change while adhering to a psychometric conception of intelligence is an irrational endeavor. To ask how meaningful cognitive changes may be produced is tantamount to psychometric heresy, because it is this question that undermines the entire statistical apparatus and conceptual foundations upon which the tests are based.

The DA literature is replete with references to terms such as *learning potential* and *cognitive modifiability*, with the implication that what is under assessment may be a capacity to benefit from mediation rather than intelligence as conventionally defined. On the one hand, it would seem reasonable to ask whether problems might arise from employing testing instruments designed to measure one construct but altering the administration procedure and consequently revealing a different construct. Some DA practitioners, most notably Feuerstein and his colleagues at the International Center for the Enhancement of Learning Potential in Israel, have designed their own instruments according to their own theorisation of constructs. Feuerstein has articulated perhaps the most elaborate conceptualisation of constructs and how they are diagnosed and promoted through DA. Nonetheless, the primary constructs of learning potential and cognitive modifiability are not well defined and are often and confusingly applied interchangeably, a matter explored in detail by Kozulin (this issue).

A final point that must be made is that consistence in individual performance during the course of an assessment is usually regarded as a cornerstone of reliability but is anathema to DA. As should be clear, the purpose of DA is to gauge responsiveness to mediation during the procedure, and therefore changes in learner performance are an intended outcome. In fact, it is a complete lack of responsiveness that would be problematic in DA. Consistence in performance from one test administration to another (i.e., test-retest reliability) is something that DA procedures set out to undo. Similarly, inter-item reliability operates under the assumption that individuals should perform in the same way on items that are designed to assess the same abilities or knowledge during an assessment. In DA, however, even this may be jeopardised as those abilities are not assumed to be stable but to be dynamic. That is, individuals may improve over the course of the assessment, handling later items more effectively than earlier ones because they have benefited from mediation provided earlier during the session. Moreover, while DA often includes post-tests that are compared to baselines in order to chart improvements through mediation, many approaches to DA also emphasise transfer assessments, where tasks are intentionally rendered more challenging and complex. The purpose here is to determine how far individuals can extend

their new understandings as they encounter novel problems. In classroom settings, the principle of continually rendering tasks more challenging as learners improve is essential to continuing to promote development through ZPD activity.

### ***Dynamic Assessment and the classroom as a site for teaching and assessing***

While much DA work has emphasised learning ability and general cognition, this does not mean that improving schooling practices has not also been a central concern in DA. However, given that DA has frequently been pursued by school or educational psychologists, the connection to classrooms is often indirect and in the form of recommendations to teachers. Indeed, Lidz (2009) has suggested that one reason DA has not gained wider acceptance is that its relevance to classroom teaching and learning is not well understood in many cases and has not been well articulated by DA proponents. She cogently observes that simply informing a teacher that a learner has greater potential than evidenced in his/her daily school performance does little to help teachers work with learners to realise that potential.

In support of Lidz's position, it is worth noting that cognitive intervention programmes linked to DA are often situated outside of regular school activity, occurring in after-school sessions or even in separate institutions (see Tzuriel this issue). Within school settings, DA may be conducted by a school psychologist as part of a battery of assessments to determine the causes of poor performance. Most often, this is the result of a referral from a classroom teacher and is prompted by a child's poor performance on mandated standardised tests or during everyday classroom activities and assessments, or both. These applications of DA may continue to target general learning or cognition or they may be tailored to abilities theorised to underlie success in specific academic domains such as reading (e.g., phonemic awareness, decoding) or mathematics (e.g., analogical reasoning, pattern identification and completion). Nonetheless, as Lidz (2009) observes, sets of recommendations provided by psychologists to classroom teachers do not ensure that any action will be taken to provide learners with the mediational means of development.

Lidz's own *Curriculum-Based DA* (2000), as well as the *Cognitive Enrichment Advantage* developed by Greenberg (2000), both stand in contradistinction to this disconnect. Both approaches integrate DA more closely with classroom activity by offering teachers greater insights into learner functioning and how it may be improved through appropriate forms of instruction. The psychologist thus functions as part of a team alongside teachers and other assessment stakeholders to determine how the social and cultural environment can be arranged to better afford learner development.

Recently, a trend that has appeared and been pursued most vigorously in the context of second language learning has involved teacher-implemented DA (see Poehner 2008b). As Kozulin (2009) observes, these efforts bring DA into the realm of formative assessment, that is, assessments undertaken for the purpose of informing classroom instruction. In the L2 field, Poehner and Lantolf (2005) have similarly discussed the relation between formative assessment and classroom-based DA, noting that the important difference between them is that DA is driven by a coherent theory of development. In terms of practice, this renders teacher-learner interactions highly systematic because they are organised as ZPD activity, with mediation serving to support learner participation. As a result, a given classroom activity functions as both an ongoing diagnostic of learner abilities and an intervention in their development. Thus, most L2 DA studies are situated in a highly dialogic, interactionist approach. A

particularly interesting contribution of this work has been the close analysis of DA interactions, allowing emerging abilities to be traced over time. This line of research is still quite new and, as with all the DA applications described, no doubt has much to contribute to and gain from discussions with a broader community of assessment researchers and practitioners.

### Overview of the special issue

The five papers in this special issue extend current work in DA while simultaneously creating points for dialogue with other areas of educational assessment. Taken together, the papers also represent the diversity of educational problems and contexts to which DA has been applied. Specifically, work is reported from North America (Ableeva and Lantolf; Poehner and van Compernelle; Siekmann and Charles) and Israel (Kozulin; Tzuriel), and addresses populations including immigrants (Kozulin), heritage learners of an indigenous minority language (Siekmann and Charles), university students of foreign languages (Ableeva and Lantolf; Poehner and van Compernelle), and young children suspected of having learning difficulties (Tzuriel).

While these papers adhere to DA principles of mediation, they are not uniform in how they approach ZPD activity, with some adopting a more dialogic, interactionist approach to mediation (e.g., Poehner and van Compernelle; Siekmann and Charles) and others following a prescribed, interventionist model (e.g., Tzuriel). In part, these preferences reflect the different disciplinary traditions to which the authors belong and in which their work is situated. That is, in addition to the different populations represented in these papers, the authors themselves are drawn from fields including psychology, applied linguistics, and education. In spite of these differences, at least three themes emerge across the papers: commitment to elaborating in-depth diagnoses of learner development; conviction that all learners may develop beyond their current manifest performance, including populations of learners identified as at-risk; and ongoing interest in conceptualising human abilities and their development, with implications for interpreting performance.

Diagnosing learner development emerges as a central concern in the papers by Ableeva and Lantolf, and Tzuriel. For Ableeva and Lantolf, dialogic mediation during DA allows for internal processes to be externalised through mediator-learner interaction, and this proves essential to understanding learner difficulties. As they explain, listening comprehension in an L2 is a complex process involving a range of sub-skills and strategies. Ableeva and Lantolf report the use of DA with undergraduate university learners of French as an L2 engaged in comprehending recordings of native French speakers. Their use of DA enables them to differentiate phonological, lexical, and grammatical problems experienced by individual learners, which in turn supports instructional efforts to improve the students' listening abilities. In his paper, Tzuriel documents the highly nuanced profiles of learner abilities that emerge when DA is used in conjunction with cognitive education programs. Tzuriel surveys widely regarded programmes designed to support cognitive change (*Feuerstein's Instrumental Enrichment*, *Bright Start*, and *Peer Mediation with Young Children*) and then argues that the non-dynamic measures frequently used to chart learner improvement miss important gains that many individuals make during the programmes, gains better captured through DA. He further points out that DA is also better aligned with the aims of cognitive education than other assessments precisely because the former introduces change during the assessment procedure. Tzuriel goes on to review DA studies

that provide empirical support for the added benefits of dynamic approaches to tracking learner development through cognitive education.

A commitment to helping all learners develop regardless of their past experiences of academic failure or current manifest performance is shared by all DA proponents. Siekmann and Charles offer what is surely the first application of DA principles with the indigenous Yup'ik people of Alaska. Following Greenfield's (1997) observation of the disconnect between modes of action that characterise many minority and indigenous cultures outside of school and those privileged and imposed in school (see also Karpov and Tzuriel 2009), Siekmann and Charles propose that DA holds considerable ecological validity for university heritage learners of the Yugtun language because expert–novice cooperation is the dominant learning paradigm in Yup'ik culture. The authors emphasise the use of learners' independent performance during traditional language tests as a point of departure for mediator–learner dialogic interactions with a goal of providing learners with the tools necessary for more autonomous functioning. Here again, cultural issues intervene as the abstract, academic tools intended to support learner understanding of linguistic features of Yugtun introduced ancillary challenges that in turn required explicit teacher mediation before they could be of use to learners.

In addition to addressing important issues of practice, DA, owing to its robust theoretical underpinnings in the work of Vygotsky, is uniquely situated to prompt continued discussion around conceptual issues such as the ways in which diagnostic and developmental opportunities are negotiated between mediators and learners and the nature of abilities revealed during DA. Poehner and van Compernelle wrestle with the concept of the ZPD and how varied interpretations have emerged in the educational research literature in general and DA research in particular. They argue in favour of an understanding of the ZPD such as that proposed here, namely, as dialectical and transformational activity undertaken with learners. Poehner and van Compernelle go on to submit that this activity is realised through mediator efforts to co-construct interactional frames with learners that alternately foreground processes of jointly carrying out assessment tasks and the creation of opportunities to pursue questions and problems that are not immediately relevant to those tasks. Drawing on close analysis of transcribed interactions between a mediator and university L2 learners, they maintain that it is the shift between these interactional frames that allows for the diagnosis and promotion of learner development during the course of a single session.

For his part, Kozulin interrogates notions of learning potential and cognitive modifiability, constructs long held to be central to many approaches to DA. He casts his discussion as part of the broader problem in psychoeducational measurement of distinguishing between learning and thinking. Kozulin orients to these as processes through which new abilities are acquired, on the one hand, and the synthesis and application of knowledge and abilities to solve new problems on the other. He investigates how this distinction may help to illuminate the needs and abilities of learners entering a new educational system, and he offers empirical evidence in support of his conclusions from ongoing work with Russian and Ethiopian immigrants to Israel.

To be sure, these papers are far from an exhaustive account of all that is currently being pursued under the banner of Dynamic Assessment. In fact, the international DA community is probably larger and more active today than ever before. Seminars and training programmes as well as meetings of professional organisations, such as the International Association of Cognitive Education and Psychology (IACEP), are held

regularly to showcase DA-themed research. A professional research journal, *Journal of Cognitive Education and Psychology*, features original theoretical and empirical studies relevant to DA, and numerous DA resources are now available online (e.g., [dynamicassessment.com](http://dynamicassessment.com)). Nonetheless, DA remains outside the mainstream. Despite all its promise, DA continues to exist on the margins of educational assessment. The papers in this special issue offer a cross-section of several important strands of DA research. It is hoped that the broad readership of this journal will allow more people to become acquainted (or re-acquainted) with DA, and will yield scholarly dialogue to benefit those within and beyond the DA community. Only through cooperation can responses be formulated to the challenge of mainstreaming DA.

## Notes

1. For a similar account of learner contributions during classroom activity that is framed as formative rather than dynamic assessment, see Rea-Dickins (2006).
2. The recent proposal of 'interactive assessment' (Hamp-Lyons and Tavares forthcoming) puts forth a similar argument and makes reference to Vygotsky.

## Notes on contributor

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