Unlocking Potential: A Critical Examination of Dynamic Assessment in Educational Settings

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Abstract

This paper reports on what has happened since Elliott (2003), in those applications of dynamic assessment that he considered. There continues to be two broad applications, one, largely researcher led, and the other, largely practitioner led, although there are examples of researcher-practitioner applications. Since Elliott, arguably, it is now relatively easy both to reach consensus over constructs and assessment processes and also to mutually respect differences through clarity over professional and assessment purposes. There is a fuller account than Elliott provided of educational psychologists' practice in the UK, which partly serves to highlight the difference in purpose and imperative to research and evaluate outcomes that persists for researchers and practitioners. The paper concludes by arguing that the premise in Elliott's title of "realising potential" was always contestable.

Introduction

The purpose of this paper is to reflect on developments in dynamic assessment (DA) since this journal published Elliott's (2003), *Dynamic Assessment in Educational Settings: realising potential*. Quite rightly, Elliott's article has been admitted to *Educational Review's* Hall of Fame but what has changed in the 14 years or so since it was written? The short answer to this question is that by the terms of his article, very little. For example, in relation to the potential promise of DA, we do not know if know if it is used with more, the same or less prevalence than in 2003 and the reasons for this for applied educational psychologists outlined by Elliott (1993), Stringer et al. (1997) and from a USA school psychologist perspective, Lidz (2009), are still more or less relevant. Certainly, so far as qualitative DA approaches are concerned, the challenge Elliott laid down for future studies in the conclusion of his article has not been realised, at least not by applied educational psychologists. At the same it is arguable (Beckman, 2014) if his challenge can be realised even so far as research with dynamic tests is concerned. Indeed, a bigger question is whether the potential of many human processes can ever be realised. If there is one thing to learn from Vygotsky's (1986, p.194) construct of *zone of proximal development* (often referred to as *potential* development) it is that there is always a gap between *actual* development and *potential* development.

Undoubtedly and predictably, there have been changes. Key figures in researcher-led dynamic testing are working in other areas of research and the interests of those still researching in this area have understandably evolved, for instance to focus still more strongly on intervention studies. The use of DA has spread into other fields, particularly in

the areas of speech and language therapy (for example, Hasson and Joffe, 2007) and of second language development and bilingualism (for example, Poehner and Lantolf, 2003; Camelleri et al., 2014).

Before going further, however, first a declaration of interest and second, a confession to a sin of commission: First, my perspective in this article is that of an applied educational psychologist in the UK and my emphasis more than that of Elliott's (2003) will be on how DA practice has developed in the UK and the tasks that it faces. Second, within the scope of this article, it is necessary both to be selective and concise in reviewing developments since 2003. So, for instance, I will not describe developments in other fields, as important and interesting as they are.

The organisation of this article will be roughly guided by my interpretation of Elliott's (2003) central themes, which are:
- The lack of consensus between those using the two different methods of dynamic assessment
- The potential promise of dynamic assessment and the use of standardised dynamic tests to assess potential to learn
- The extent to which DA informs intervention, especially classroom instruction
- The requirements of future studies

Standardised and clinical approaches to dynamic assessment: is there any continuing disagreement between proponents?

Elliott (2003) draws the common distinction in the literature between standardised and clinical approaches to DA and the nature of disagreement or lack of consensus between these approaches. In my view consensus was never far away because most DA researchers and practitioner implicitly or explicitly have followed Gipps (1994, p.163) who urged an end to such "false dichotomies" as "standardised tests versus performance assessment".   The way to consensus, though, was proposed by Elliott (2003) himself, through considering purposes, constructs, and the implications and methods that follow from those constructs.

Definitions and consensus

The seeds of confusion for anyone coming new to DA are sown simply by the plethora of definitions, with most if not all authors in the field offering their particular definition. Without claiming that it is exhaustive, Stacey (2016, pp.14-15) lists nine definitions including that of Elliott (2003). As Tiekstra, Minnaert and Hessels (2016, p.132) confirm, "…there is no consensus about the definition of dynamic assessment in the field. Moreover, different approaches exist (standardised vs. clinical), which may cause confusion in research as well as in practice." From my point of view, this begs the question: in order to avoid confusion, does there need to be a consensus over different approaches? Surely a starting point is to embrace the consensus that exists and then provide clarity over how the general term, DA, is used.   Arguably, clarity only becomes a problem when testing (a possible feature of an assessment) is used as a synonym for assessment (as an entire process) and by the same token, dynamic testing is used as a synonym for dynamic assessment.

Purposes and consensus

Clarity over purposes can build consensus by respecting difference and as Gipps (1994, p.163) indicates, being aware of what different assessment approaches offer. Elliott (2003) himself draws upon Grigorenko and Sternberg (1998) to note the drawing of an early contrast, that between the purposes of researchers and those of "teachers and clinicians" (Elliott, p.17; Grigorenko and Sternberg, p.104).   Both researchers and practitioners have to address particular purposes. Undoubtedly in my experience, educational psychologists can take a relaxed approach to clarity of purpose, not heeding the warnings of, for example, Cizek (1997) and Burden (1996). The point is summarised for educational psychologists by Lauchlan (2012) and Lauchlan and Carrigan's (2013): clarity of assessment purpose is required to avoid misunderstanding.

Constructs, implications, methods and consensus: in the beginning was Vygotsky

By common consent among writers in the field, the roots of dynamic assessment lie in Vygotsky's work although Kozulin (1998, p.72) emphasises that Feuerstein (and his collaborators) developed their theory and practice, including mediation, independently of Vygotsky. Kozulin (p.69) notes that in Vygotsky's account, the *zone of proximal development* can be interpreted both qualitatively and quantitatively. *Qualitatively through* a mediated learning approach to dynamic assessment and the identification of the emergent "cognitive functions that are absent in the unaided performance of the child, but reveal themselves when the child is aided by adults". *Quantitatively* through dynamic testing and "a measure of the difference between unaided and aided performance" (Kozulin, p.69). Kozulin (2011, p.176) implicitly advises users of DA to make a careful distinction between approaches to investigating learning potential and those investigating "cognitive modifiability". Poehner & Lantolf (2005, p.239-240) utilise this qualitative and quantitative distinction to propose, respectively, the terms *interactionist* and *interventionist* dynamic assessment.

Haywood and Lidz (2007, p.7), Resing (2013, p.83) and Lidz (2014, p.293-4) have sought to establish consensus in dynamic assessment by pointing to the key features of all approaches, in defining intelligence as "ability to learn", that the intervention of the assessor is integral, and the central focus is on how the learner responds to this.

The argument in this article, then, is that consensus is to be found through clarity over which constructs apply to which DA methods, assessment purposes and the implications that follow as a consequence.   If consensus can be identified, then, what is the current status of dynamic testing and measuring potential since Elliott (2003)?

Learning potential fourteen years on

Elliott (2003) used *potential* in two ways: the promise of DA in general, and as a reference to learning potential. So far as promise is concerned, as noted at the beginning of this article it is difficult to know if DA is used with greater prevalence, not just in the UK but elsewhere.

What is the current status of learning potential research? A consideration of this also takes in another of Elliott's themes: the extent to which dynamic assessment informs intervention, especially classroom instruction, and the related theme of the focus of dynamic assessment on either specific curricular domains or the cognitive processes that are necessary for all learning and problem solving.

It is worth briefly contemplating Sternberg and Grigorenko's work since they were a substantial source for Elliott (2003). Their later writing (Sternberg and Grigorenko, 2004a; 2004b; 2004c; 2006) is much less concerned with dynamic testing (with the exception of Grigorenko, 2009). They have turned to emphasising the relationship between intelligence and culture summed up by the title of the 2006 chapter, *Why cultural psychology is necessary and not just nice: The example of the study of intelligence*.

Elliott has continued his interest in dynamic testing. Recent publications (for example, Elliott and Resing, 2015) have maintained a critique both of the lack of evidence for the extent to which DA informs instructional intervention and also the extent to which programmes aimed at developing cognitive skills lead to improved academic attainment. This article usefully complements that of Resing's (2013). In both, a connection is made with the part that DA might play in response to intervention. This is a theme that Grigorenko (2009) examined although there is not the scope here to elaborate this topic and in addition to Grigorenko, an interested reader is referred as a starting point to Fuchs et al. (2007).

More relevant, here, are the increasing attempts to inform classroom instruction. In addition to Elliott and Resing, other authors have pointed to this, including Haywood (2012, p.228) who sees it as a "critical need", and for applied psychologists, Lauchlan and Carrigan (2013) with their "practical classroom resource". Tiekstra, Minnaert and Hessels (2016), for instance, have conducted a systematic literature review of dynamic tests with the aim of examining their consequential validity (although their search criteria only included articles published up until 2011). They conclude that there is still insufficient evidence for the extent to which understanding the nature of a child's cognitive needs leads to relevant intervention.

Since the beginning of the 1990s, Resing has made a major contribution to interventionist approaches, in particular through studying inductive reasoning, frequently using analogical reasoning tasks and a graduated prompts approach to providing structured assistance during the assessment (see Resing, 2013, p.85, for the rationale for this). While learning potential remains a key background construct, a central purpose of this work has been to inform classroom instruction (for example, Resing, 2000; Resing, 2006; Bosma et al., 2012; Resing, 2013; Bosma et al., 2017) and has also included a series of studies utilising a microgenetic research design Tunteler and Resing, 2002; Resing et al., 2016; Resing et al., 2017). Resing has also made a contribution to computerised dynamic testing (Stevenson, et al; 2011; Resing and Elliott, 2011).

Elliott (2003) also cited Hessels and Hessels-Schlatter (2003) as other key researchers in Europe. Their significant contribution to the field has continued, from developing interventionist assessment measures (Hessels, 2000, 2009; Schlatter and Buchel, 2000; Hessels-Schlatter, 2002) to developing a computerised version of the Hessel's Analogical

Reasoning Test (Hessels et al., 2011), often with a focus on particular populations such as individuals with severe learning difficulties (Hessels and Hessels-Schlatter, 2008). Most recently, their work has targeted metacognition and self-regulated learning (Hessels-Schlater et al., 2017).

It should go without saying that potential to learn is not the prerogative of research psychologists. From his earliest work in dynamic assessment research and test development, Tzuriel has modelled consensus by accommodating research and clinical applications of dynamic assessment, in that his tests can be used either as a research or clinical version (e.g., Tzuriel, 1995). For him there is value in combining "both as harmoniously contributing to [his] understanding of human behaviour" (Tzuriel, personal communication, July 4, 2017). His wide-ranging research has included consideration of the measurement of learning potential, for example, in the context of the use of dynamic assessment as outcome measures in cognitive education programmes (Tzuriel, 2011).   This article captures the distinction in conceptualising potential from different DA perspectives. As Tzuriel (2011, p.127) points out, whereas some researchers have taken a psychometric route in their work, Feuerstein and colleagues have not sought to quantify potential because of the implied limitations on cognitive functioning.

Similarly, and in concluding this section, Lidz (2014, p.301), describes how she grew disinterested in the idea of learning potential since, "Essentially, it does not provide information of any substantial value because we all have potential beyond our current level of functioning." My reading of the literature is that researcher preoccupation with learning potential has understandably evolved. While not necessarily accepting Lidz's point, learning potential research generally proceeds on the basis that all children can learn and that researchers aim for a particular kind of rigour in their use of standardised approaches.

Educational psychologists' practice in the United Kingdom

A significant but minor theme in Elliott's (2003) article is the use of DA by educational psychologists in the UK.   The balance will be redressed here although since the development and use of DA in the UK merits an article in its own right, I will focus on current practice.

Instruments and procedures

Educational psychology practice has been most influenced by Tzuriel's "clinical qualitative approach" (Tzuriel, 2011, p.127, and elaborated in Tzuriel, 2001, pp. 65-75). A significant attraction follows from the purpose of qualitative DA: to assess how a learner changes during the assessment process, since those changes indicate propensity to learn and develop *if* there is cognitive intervention (Tzuriel, 2011, p.115). It means that DA makes for an empowering person-centred form of assessment to support inclusive practice (Stringer, 2009), the more so if that assessment takes place in the presence, say, of parents and school staff. Also, as Lauchlan and Carrigan's (2013) emphasise, the assessment process itself can directly translate into recommendations for the child and for parents and adults, who share a collaborative responsibility for that child's learning.

As already noted, it is difficult to establish how many educational psychologists use dynamic assessment instruments as part of their routine practice. Both Stacey (2016) and Stanley-Duke's (unsubmitted) describe small scale surveys where participants report frequently using a range of dynamic assessment instruments. It is a fair assumption that these are representative of instruments and procedures generally used within the profession because they are indicative of access to training, in particular from Tzuriel, who frequently offers workshops in the UK. The range embraces tests developed by Tzuriel and from Feuerstein et al.'s *Learning Propensity Assessment Device* (unpublished but see Feuerstein et al., 1998 and 2002 for descriptions). Most participants use play-based assessment and in particular draw upon *Let's Play* (also known as *The Bunny Bag*: Waters and Stringer, 1997; Waters, 1999). Although Elliott (2003, p.19) suggested the popularity in the UK of Lidz and Jepsen's (1999, in Elliott) *Application of Cognitive Functions Scale*, I am not aware of any educational psychologist that has used or makes use of this scale, although it is used elsewhere in the world (see Lidz, 2016).

In Stacey's (2016) study, some participants reported use of the *Cognitive Abilities Profile* (Deutsch and Mohammed, 2010). In general, though, there is no reliable evidence of the extent to which any dynamic assessment procedures are used. The same applies to the more recent development by Lauchlan and Carrigan (2013). Their publication is a departure in that it emphasises a staged assessment process that could be applied to any curricula or test material. They base this on Feuerstein's theories (Feuerstein et al., 2002) and on the non-intellective factors proposed by Tzuriel et al. (1988).

A framework for assessment, intervention and recommendations for intervention

Conceiving of dynamic assessment as a theoretical and conceptually driven process seems critical in encouraging its use. In making sense of my own dynamic assessment practice, I developed a framework for learning, as shown in Figure 1, *The Components of Learning*. Vermunt (1996), writing independently of any reference to dynamic assessment theory, was an influence and in particular, Feuerstein, Tzuriel and Lidz. Figure 1 provides me with a visual guide to inform my efforts as an assessor using mediating learning experience (MLE) theory (in addition to other references to Feuerstein, see also Feuerstein et al., 1991). These efforts consider if a child has difficulties with the cognitive demands of a task, metacognitive aspects, feelings and motivation or any combination of those. It is also a framework both to explain learning and also to influence recommendations about intervention to children and young people, their parents and to staff in schools and other settings.

FIGURE 1 ABOUT HERE

Optimal learning, then, is effectively a product of the intersection of an individual's cognitive functions, metacognitive skills and non-intellective factors (feelings and motivation). The Figure follows Feuerstein et al.'s (2002, pp.152-157) account of the role of MLE. They suggest that the reason a child experiences, say, learning difficulties, is due to access to MLE. Individual differences caused through heredity or genetic factors and wider environmental factors are termed "distal factors" and they function to affect access to MLE. The appropriate provision of MLE then determines how a child can be helped to overcome

these distal factors. Feuerstein et al. (2002) also provide elaboration of cognitive functions and metacognitive skills and Tzuriel et al. (1988) and Tzuriel (2001, pp.72-73) provides elaboration of the non-intellective factors.

Connecting assessment with intervention

By definition, conducting DA means intervening with a child or young person, essentially to find out the meditational strategies, which are required to promote effective learning. For educational psychologists, that means as Elliott (2003, p.19) puts it, the cognitive processes used to solve problems and to learn, rather than the particular cognitive skills required by a particular curricular domain. In effect, the intervention used in the assessment is a rehearsal and, frequently, modelling for observing parents and school staff for what can be done at home and school to support learning. One of the strengths of Lauchlan and Carrigan's (2013) work is the strategies they suggest as a basis for intervention in the classroom, although they have equal applicability to non-teaching staff, such as teaching assistants, and to parents.

In Hampshire local authority, educational psychologists have taken intervention in another direction. Both examples are a response to changes in England's National Curriculum, which has brought an increased emphasis on learning processes. The first example (Burt and Stringer, submitted) is curricular domain specific and reports a study in a primary school that uses recent research to devise and pilot a programme to improve children's metacognitive understanding about maths. The second example, as yet unpublished (Jenkins, et al.), is a four-session programme drawing largely but not exclusively on Feuerstein's theories. It focuses on whole school staff development aimed at improving task analysis and the quality of instruction and support for all learners and in particular those seen as experiencing learning difficulties.

Before concluding this section and as a way of leading into the next, there is another point to draw out. A dominant theme in Elliott's (2003) article is standardisation. An argument rarely made in the literature is that while Feuerstein, Tzuriel, Lidz and others do not offer psychometric standardisation, they do offer a qualitative, process based approach, with recognisably *standard* procedures, founded on robust theory and principles of meditational practice. It is this that guides educational psychology practice in the UK and that Lauchlan and Carrigan (2013) have utilised.

What can be done to improve the evidence base?

This section addresses what has happened in response to Elliott's (2003, p.24) challenge that future studies should go beyond "case study testaments". Taking this at face value, so far as applied psychologists (and certainly educational psychologists in the UK are concerned) there continues to be little published evidence that directly meets this challenge.

However, first, why is there a problem with case study accounts? Second, what practical value would there be in trying to compare interventions based on dynamic and static tests? It seems perverse in light of Elliott's (2003) earlier observation (p.20) that applied

educational psychologists in both the UK and USA increasingly doubt the value of static assessment and its central purpose to classify and categorise children according to norms. The purpose of DA, of course, and its aim of informing intervention, is quite different. There is anecdotal evidence provided to educational psychologists by children and young people, parents, and staff in schools that dynamic assessment produces recommendations for meaningful interventions that can be realistically implemented. As for evidence of gains, given the general history of learning failure that characterises most of the children referred to educational psychologists, any improvement in a child's progress that is reported on the basis of an educational psychologist's recommendations is sufficient and satisfactory evidence. Naïve or not, this is consistent with Feuerstein's resolve that it is illogical to judge an essentially qualitative process-based approach to dynamic assessment by the standards adopted by quantitative approaches to dynamic *testing*. "What is at stake is not theoretical elegance, but issues that affect the lives and destinies of real people." (Feuerstein et al., 1981, p. 218)

Less naively, there is no doubt more that educational psychologist could do to strengthen their evaluations of the use of DA and go beyond largely theoretical articles (including this one). There are some interesting examples of publications within the last five years (Lauchlan, 2012; Lauchlan and Carrigan, 2013; Lawrence and Cahill, 2014; Hill, 2015) and studies based on doctoral research (Green, 2015, and in preparation) and Stacey (2016). Green's research is the first to consider the competencies that UK based educational psychologists require to conduct dynamic assessment. Emerging doctoral research by Stanley-Duke (not submitted) uses Q Method to investigate the educational psychologists' choice of assessment tools, including dynamic assessment.

It would be timely to bring together these various research methods to build coherence to disparate efforts and to act as a spur to further, systematic studies. Contrary to Elliott (2003), case studies and case study research could play an important role if greater rigour is applied. The second phase of Stacey's (2016) study fulfils this by carefully following Yin's account of case study method (2003, cited in Stacey, p.94) for a detailed analysis of one educational psychologist's work with an individual child and the follow-up work undertaken by a member of the school staff. Lidz (2014, p.301) also recommends the relevance of single-case research. There is of course, a long history of the systematic use of this procedure (for example, Kratochwill, 1978).

Microgenetic methods as "a means for obtaining the type of fine-grain information that seems necessary to advance understanding of cognitive change" (Siegler, 1995, p.226) are also beginning to be used in dynamic assessment research. Given the purpose of these methods and their concern with cognitive change, it seems surprising that they have not been used widely in the DA research, especially since accounts of the method have been available for a long time in the research literature on child development. In fact, as Siegler and Crowley (1991, p.608) remark, the history of microgenetic methods can be dated to the 1920s and to Vygotsky and to Werner. So far as DA is concerned, Tunteler and Resing (2002), Resing et al. (2016), Resing et al. (2017), and Marzban et al. (2017) have all published studies using microgenetic methods.

Finally, although it is beyond the scope of this article, there appear to be sufficient grounds to question whether Elliott's (2003) challenge stands up to scrutiny, even by the terms of standardised DA. Beckman (2014), with implicit reference to Elliott's observations about the unfulfilled potential of dynamic testing, describes the paradoxical nature of considering the "promise" of DA. Beckman builds an argument, ultimately suggesting, "…that the only promise dynamic testing could possibly make is regarding its usefulness to the psychometric measurement of psychologically relevant constructs." (p.320) He states that it is not possible to directly test this promise because of problems in establishing the validity of all dynamic tests.   Beckman's arguments about validity are part of a well-worn path highlighted in the DA literature (for example, Tzuriel, 2001, p.214; Haywood & Lidz (2007, p.329) and which goes back as least as far as Messick (1980), who has had a major influence on researchers, including Gipps (1994).

Concluding comments

The purpose of this article is to report on what has happened in the field of DA since Elliott (2003). There continues to be two broad applications. One, largely researcher led, is concerned with developing and using standardised dynamic tests to research cognitive interventions. The other, largely practitioner led, is concerned with qualitative assessment to meet a similar end but with noticeably less evaluation of outcomes. Arguably, since Elliott, it is now relatively easy both to reach consensus over constructs and assessment processes and also to mutually respect differences through clarity over professional and assessment purposes. Further work is required to establish rigorous evidence of outcomes, especially on the part of practitioners although in this regard, Elliott's concluding recommendations are open to challenge. Ultimately, and as Vygotsky's influence continues, in my view, the premise in Elliott's title of "realising potential" was always contestable. It is worth recalling that, "The zone of proximal development defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in embryonic state" (Vygotsky, 1978, p.86). We have not yet reached "tomorrow".

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