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The case for Dynamic Assessment in speech and language therapy

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Abstract

This paper highlights the appeal of dynamic assessment (DA) for speech and language therapists (SLTs), and describes the usefulness of various DA models and methods. It describes the background to DA, and the uses to which DA has been put, by educational psychologists in the UK, and by SLTs in the USA. The research and development of methods of DA are described, and the case for developing DA methods for use in a) research and predictive applications, and b) clinical applications to inform interventions by SLTs and in collaborative practice, is made. Implications for future research are presented.

Keywords: difficult-to-test populations, dynamic assessment, impairment, intervention, standardised tests

What is Dynamic Assessment?

Vygotsky (1978) believed that the early development of understanding occurs through interaction with others. In this period greater achievement is possible when a child learns through collaboration with a more experienced or informed guide. This principle usually underlies therapeutic interventions but is not the way in which cognitive or language assessments are traditionally conducted.

This difference between a child's own performance and his/her achievement when guided by an adult or in collaboration with a more experienced peer, reflects the child's developmental potential referred to by Vygotsky (1978) as the 'zone of proximal development' (commonly, ZPD). The term 'dynamic

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assessment' includes a range of methods and materials to assess this potential for learning, rather than a static level of achievement assessed by conventional tests. Its aim is to reveal an individual's maximum performance, by teaching or mediating within the assessment and evaluating the enhanced performance that results. Feuerstein *et al.* (1987) note that it is used in contrast to the notion of 'static measurement' assessed by conventional psychometric approaches. The case for DA of cognitive ability has been described by Feuerstein *et al.* (2002), but there remains a void in the field of speech and language therapy.

Why do we need to use Dynamic Assessment in SLT?

Limitations of static tests

The limitations of static assessments are considerable in the field of SLT where the multidimensional nature of language '*does not easily lend itself to single unitary measures*' (Dockrell, 2001: 75). Screening measures used to detect language problems have been shown to be less than accurate (Law *et al.*, 1998) and little better than the opinions of parents (Laing *et al.*, 2000, cited by Dockrell, 2001). Furthermore, Dockrell (2001: 78) suggests that diagnostic tests which target specific aspects of the language system are '*consistently inadequate for determining whether a child is developing typically or is experiencing a delay*'. The diversity of children's problems necessitates a range of interventions, but test batteries fail to specify an intervention likely to be useful, or to give a prognosis. Nettelbladt *et al.* (1989), concluded that detailed case studies are the only way at present to elucidate crucial individual differences in children with language disorders, and Enderby and Emerson (1995: 41) concur, that '*there are few standardized assessments available and commonly in use which would cover the range of disorders that one may find within the subject pool*'.

Dockrell (2001) argues that standardized assessments fail to tell us how a child approaches a task or about the difficulties they encounter. She suggests that existing tests are of little value for planning interventions and sees process-based assessments such as those that would fall under the umbrella term of a 'dynamic assessment' as a move towards a more informative approach. As yet, only a few published reports of this method in speech and language therapy are available. These will be presented in a later section.

Difficult-to-test children

The SLT's caseload includes a variety of children who are difficult to test using traditional assessments. Modification of tests to accommodate these

children will result in them becoming unstandardized and, in Feuerstein *et al.* (1987) view, the attempt by professionals to alter tests to accommodate cultural and linguistic differences does not meet the needs of these populations.

Difficult-to-test children may include those who are bilingual and come from diverse cultural backgrounds, children with hearing impairments, children with emotional and behavioural disturbances and those on the autistic spectrum. Standardized tests are often used with these children, with the disclaimer that they are not standardized on the given population. As a result, only qualitative, rather than normative judgements can be made.

Important questions also arise about the validity of testing children via the very input modality in which they are most handicapped. Procedures that access more reliably and in more detail, the language skills and language learning strategies such children can use, are currently unavailable. Similarly, there is need to determine the responsiveness of such children to intervention, to identify methods and strategies that are useful and accessible to them and to try to predict their improvement. Nelson (1998) points out that the apparent prognosis for a large group of children may not accurately represent the actual prognosis for a particular child. Nelson (1998: 215) also describes how assessment and intervention are integrated processes, but only with regard to goal setting. Typically, the assessment process does not contribute information about strategies and methods for intervention. If it is to be maximally useful to parents, carers, teachers and therapists, assessment should yield specific, individualistic and directed recommendations for management.

Applicability of the dynamic model

The Learning Propensity Assessment Device (LPAD), the test battery devised by Feuerstein, reshapes the test situation from one that is highly standardized, to an interactive process between three essential components, namely the learner, the assessor and the task. (Feuerstein *et al.*, 1987; Lidz, 1991) This triad is central to Feuerstein's mediated learning theory, known as 'structural cognitive modifiability', and is important and entirely relevant to both assessment and intervention in SLT (Figure 1).

Central to SLT practice is the client, the within-child variables and the description of impairment. Also recognized is the task, analysis of task requirements and the consideration of sequential steps towards achievement of a task, as described by Dockrell and McShane (1993). Dockrell (2001) reminds clinicians that assessment occurs in a context of relationships between the child and the task material. Failure may occur when the requirements of the task are inappropriate for the child, the instructions too complex, or the response required too demanding.

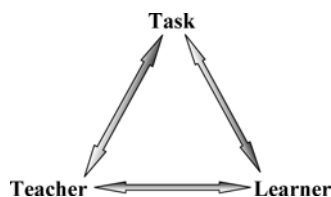


Figure 1 The tripartite model (adapted from Feuerstein, 2001)

In speech and language therapy, assessment and intervention differ in their underlying philosophy. In therapy the interaction with the therapist is central, while in assessment, efforts are made to remove the influence of the assessor and reduce inter-tester variability. Vygotsky (1978), and Feuerstein *et al.* (1987) retain the centrality of the tester in the assessment process and see the diminishing dependence of the learner on the adult as an indicator of change in the child. This approach appears appropriate for SLT use, where the relationship between therapist and child can enhance the performance of the child in both assessment and therapy, creating a feeling of greater competence and motivation in the learner. The benefits of this child-centred approach, however, would need to be balanced against the need to obtain reliable and replicable test results.

Process versus product

Conventional language assessment does not make explicit the child's learning strategies and methods, or his/her particular strengths and weaknesses in learning and problem-solving behaviour. The latter are termed 'cognitive functions', by Feuerstein (1980) and are also described by Dockrell and McShane (1993) in relation to learning difficulties. Cognitive learning strategies are analogous to, concurrent with, and interwoven with, language learning strategies. Assessment of language should access the formal concepts that enable a child to make sense of experiential learning and the skills s/he must develop to facilitate or enhance language learning (Kozulin, 1990). The assessment then becomes 'domain general'; it does not describe the specific manifestation of the linguistic weakness, but rather the weakness in underlying skills of learning, language processing and problem-solving.

An example of this can be seen in research in reading acquisition. Some researchers, trying to establish predictors of progress in reading, in addition to the reading *per se*, will also explore the underlying processes including phonemic awareness (see eg, Spector, 1992). Kozulin and Garb (2001) have noted that the *process* involved in reading is crucial and strategic problem-solving

activities, such as looking for clues in the question, elimination of impossible answers and comparison of possible answers, should be promoted, rather than the decoding of print itself.

Predicting readiness for change

Feuerstein believed that assessment should demonstrate the individual's potential for change when the appropriate type of intervention is available. The assessment evaluates the individual's present level of functioning and potential for change by assisting in the assessment task. This indicates his/her need for assistance. Existing language assessments typically do not fulfil this role. They leave the therapist needing to undertake 'trial therapy' to estimate responsiveness to intervention methods. Law *et al.* (1998), for instance, suggest that initial intervention should be viewed as part of the assessment process, rather than as intervention.

The procedure will be familiar to practitioners who frequently try to get a sense of a client's 'stimulability' (typically in assessments of phonology) to gauge their readiness for change. This approach, however, has no stable methodology and is frequently the product of a practitioner's experience. It can not easily be characterized and passed on to students of SLT. DA procedures seek to actualize this process and provide a means for SLTs to predict progress more accurately. Nelson (1998) describes the prognosis as 'an educated guess', but advocates of DA would prefer to base predictions on observed changes elicited in the child (Feuerstein *et al.*, 2002).

Therapists are familiar with the concept of 'practice effects' in standardized language assessments. Tests may be invalidated by administration within a given period of time, as the child learns from having done the test before. This notion is embraced by DA, which assumes that such learning, particularly without additional intervention, is an indication of potential to improve.

Elliott (2000, cited by Elliott, 2003) describes the information that teachers require from psychologists. This includes the responsiveness and motivation of the child to intervention. While traditional psychometric and SLT assessments do not provide this information, it is available from DA and can be communicated to teachers by psychologists and SLTs.

Birnbaum and Deutsch (1996) illustrate how recommendations for intervention generated by DA can be used in collaborative target setting in the educational context. Similarly, Lauchlan and Carrigan (2005) present materials specifically designed to facilitate the use of dynamic assessments in the local psychological service and enable dynamic assessment to be transferred to everyday practice.

How is DA carried out?

DA arose from a recognition of the inadequacy of static assessment methods to establish an individual's intelligence, irrespective of cognitive, cultural, linguistic and/or environmental differences. It includes a range of methods developed and researched to meet a number of practice and research goals, largely within educational psychology. Campione (1989) characterized the difference between DA and traditional assessments along three dimensions.

- 1) 'Focus' – the ways in which potential for change can be assessed.
- 2) 'Interaction' – the nature of the interaction between tester and subject.
- 3) 'Target' – the nature of the assessed task.

Focus: Two main methods have emerged for assessing potential for change. These are described by Sternberg and Grigorenko (2001) as the 'sandwich' and 'cake' formats. The 'sandwich' format consists of an initial pre-test, a teaching phase and a post-test phase to measure the improvement achieved. The 'cake' format presents prompts and assistance during an initial assessment phase, gauging 'online' the individual's need for assistance. The sandwich format may use standardized tests during the pre- and post-test; the cake format may make use of a non-standardized procedure.

Interaction: The interaction between tester and client is altered in DA so that the tester can act as a mediator to facilitate learning, rather than assess objectively without influencing the procedure.

Target: Finally, different approaches to DA differ in their 'target' or content, the majority of tasks being committed to 'domain specific' tasks, addressing specific skills or content. The LPAD contains tasks selected to enable assessment of more general processes of learning and is thus considered to be more 'domain general' (Feuerstein *et al.*, 2002).

Dynamic assessments that aim to differentiate *groups* of individuals (who may have similar results on static assessments, but with different abilities to benefit from intervention), require methods that are quantifiable and standardized. The method frequently involves the presentation of a series of graded or graduated prompts. (Campione, 1989). This systematic method of prompting provides increasingly directive facilitation of a desired response. The fewer prompts required, or the less assistance, the greater the child's potential for change. The number or type of prompts is a measure of the ZPD (Campione and Brown, 1987). For example, Olswang *et al.* (1992) used a hierarchy from minimal indirect prompting, to maximal direct verbal shaping of the desired response, to enable prediction of children's readiness for learning of selected two-word constructions.

Graduated prompting may be helpful for predicting responsiveness to intervention for some children and may be useful to identify, or differentiate, those with language disorders from those with cultural differences, unusual environments or experiences. The latter demonstrate that they can learn effectively with structured or mediated input. Their apparent failure stems from not having experienced the appropriate input to master the tasks. They are in contrast to those who have had learning opportunities, but lack the strategies to benefit from them, and who will require more individualized and intensive intervention to progress. The differentiation of these two groups has important implications for service delivery, may be used to differentiate clients on waiting lists for therapy and may facilitate intervention by agencies other than specialist SLTs.

A more clinical or prescriptive orientation is associated with Feuerstein, and his LPAD tasks generate largely qualitative information about the individual (Feuerstein *et al.*, 2002). This includes qualitative information about the peaks of the individual's performance, ie, the 'best' responses that are elicited, rather than their *usual* performance and attempts to locate the sources of his/her success or failure (eg, in input of information, elaboration, or output), and in which modality, (written, graphic, symbolic or auditory) change has occurred during assessment, as well as the amount and type of intervention needed to effect the change (Feuerstein *et al.*, 2002).

Followers of the approach of Feuerstein (see Lidz and Elliott, 2000; Miller, Gillam and Peña, 2001) employ a *test-teach-retest* format, using mediation during the teaching phase. This mediated teaching, or the 'Mediated Learning Experience' is a fundamental component of Feuerstein's theory and characterizes the interaction between children and those who structure and interpret their experiences of the world (see Haywood, 1993 for further elaboration).

Mediated teaching is characterized by the transmission, or mediation, of several important components to the learner. Of these, three are considered by Feuerstein to be essential components, namely Mediation of Intentionality – conveying to the child that the assessor intends to help him or her to improve; Mediation of Meaning – sharing the purpose of the activity; Mediation of Transcendence – linking the activity to other contexts in which the skill can be used.

The mediated learning experience is presented in a non-standardized, individualized, child-responsive way. The child's learning needs are identified by considering his/her performance and responsiveness to the mediation and are influenced by the individual assessor (Lidz, 1991; Deutsch and Reynolds, 2000). This model of DA is the one most familiar to educational psychologists

in the UK and according to Deutsch and Reynolds (2000) the LPAD is the only DA analytical tool available via training in the UK.

Despite the different traditions, priorities, techniques and procedures used in dynamic assessment, there are common features to DA, effectively summarized by Lidz (1991) as:

- 1) the assessor actively works to facilitate learning and induce active participation in the learner;
- 2) the assessment focuses on process rather than product – in this case the process of metacognition; and
- 3) the assessment produces information about learner modifiability and the means by which change is best accomplished.

These features are essential components of any DA procedures devised to assess aspects of language, where the processes of language learning and metalinguistics become the focus of investigation.

What use has been made of DA in SLT?

The intrinsic appeal of DA for accessing information of practical use for SLTs is apparent. Various researchers have touched on the ideas, suggesting for example ‘teaching experiments’ (Dockrell and McShane, 1993: 380) to gauge an individual’s ability to retain and transfer learnt material, especially when norm- or criterion-referenced tests are not applicable. French (1989) demonstrated that methods consistent with DA were able to differentiate patterns of learning in a group of four children. The children were similar in age and developmental level and had the same SLT diagnosis. She concluded that a tester taking a ‘therapeutic role’ and a test consisting of small steps, could differentiate the children’s ability to learn.

Tzuriel and Caspi (1992) used DA with groups of pre-school children with hearing-impairment and hearing controls, matched by non-verbal ability. Using The Children’s Analogical Thinking Modifiability Test (CATM) (Tzuriel and Klein, 1987), they demonstrated that the deaf children, who had poorer pre-test scores could benefit from training and achieve post-test scores equal to those of the hearing children and thus did not have limitations on their performance, but rather that test procedures were liable to misdiagnose their abilities.

To date, however, there is little work specifically in SLT emanating from the UK, although researchers in the US have addressed various applications of DA.

Olswang *et al.* (1992) used a graduated prompting method to predict the readiness for change of two children with expressive language delay.

A dynamic initial assessment used a hierarchy of cues to prompt two-word constructions. The results of the assessment showed that the children differed appreciably in their readiness for language learning despite similar static assessment scores. Olswang *et al.* demonstrated the predictive validity of their test by training the children, and showing that one progressed more quickly than the other and was more able to transfer his learning to novel examples.

Olswang and Bain (1996) demonstrated high correlation between performance on a dynamic assessment and a measure of immediate change in language production, ie, an increase in mean length of utterance (MLU) across the study period, with a cohort of 21 children with specific expressive language impairment. The authors highlighted a variety of aspects requiring further investigation, one of which was the indication that the children with high DA scores, signifying those who produced correct responses to general statements, as opposed to those who required more direct cues and models, who received a lower score, demonstrated language improvement spontaneously, even without the structured intervention that followed the assessment. If DA can differentiate those children who have the potential for immediate change without intervention, or with less intensive or direct intervention, from those who require intensive programmes, it will have significant implications for service delivery.

Olswang and Bain's discussion highlighted a number of important issues. Some children in the study made little advance through the intervention, despite having obtained positive indications on the DA. Possible explanations given for this were that the children lacked the pre-requisite skills necessary for the next level of development, or that the treatment techniques and timing were inappropriate. The former suggests that the DA procedure used in this study, was targeting too specific a domain and should look at more general cognitive or linguistic processing abilities that underlie language development. This view is addressed by Feuerstein's LPAD that targets essential cognitive processes, such as holding two sources of information in mind, or sequencing information and is not linked to specific task content (Feuerstein *et al.*, 1987). Alternatively, the 'profiling and dynamic assessment would need to be expanded to include behaviours corresponding to these prerequisites' (Olswang and Bain, 1996: 421).

The second explanation proposed by Olswang and Bain, is that although the intervention methods of modelling, recasting and elicited imitation are documented and proven methods for teaching grammar to children with SLI, they may not have been the most effective methods for the children used in the study. Olswang and Bain speculate about more directive, less naturalistic methods, although the children may equally have benefited from interventions utilising a more mediational approach, such as used by Feuerstein and described by Carl Haywood (1993).

Although the graduated prompting method of DA was shown to have predictive value, it is less useful for identifying the nature of intervention that would be effective for individual children. The flexibility required to individualize plans for intervention is lost because of the need to standardize the procedure used (see Lidz, 1991 for discussion).

Gutierrez-Clellan and Peña (2001), interpret Olswang's findings as indicating that graduated prompting may be helpful for predicting responsiveness to intervention *for some children*. Given the variability of response, the usefulness of the method to differentiate groups of children remains unproven. This is a priority in the American studies and a similar need exists in the UK, to differentiate bilingual children from those with language disorders and to avoid the labelling of children from different cultural backgrounds ('culturally and linguistically diverse', hereafter referred to as CLD, after Gutierrez-Clellan and Peña, 2001) as lower functioning. Their review suggests that evaluation using test-teach-retest formats may be more useful than using standardized language tests in isolation, to differentiate language disorders from differences.

Peña and various colleagues have used a test-*mediate*-retest format, where the intervention phase is mediational in nature, and the use of modifiability scales to distinguish CLD children from populations with language disorders. They use vocabulary as a pre-and post-test measure. Because vocabulary is heavily influenced by culture, language and experience, CLD children generally score poorly on formal tests of vocabulary compared to English speaking children (Peña and Gillam, 2000), but low vocabulary scores that are not uncommon in CLD populations, may not be indicative of low language ability. (Peña and Gillam, 2000). A group of CLD children were differentiated into two groups of 'typically developing' and 'low language ability' using the combination of test-mediate-retest, and modifiability ratings (Peña *et al.*, 1992).

Gutierrez-Clellan and Peña (2001) cite various studies utilizing *modifiability rating scales*, ie, checklist-type scales that measure behaviours such as self-regulation, attention, planning, reaction to challenge and produce ratings of responsiveness, examiner effort and transfer. They concluded that the best approach to differentiating populations of children with low language scores is a test-mediate-retest framework, that incorporates a mediational approach to the teaching, targets domain-general, problem-solving skills, and bases its DA rating on post-test scores combined with modifiability ratings and qualitative analysis of children's responses. In other words, children should be assessed on language processing skills, rather than specific aspects of vocabulary or syntax, and their weaknesses in these areas should be addressed in a cognitively based or metalinguistic programme. The children's willingness and ability to grasp and apply learning strategies should be monitored by rating scales,

along with the amount of improvement they are able to make in the given task and tasks challenging their ability to generalize the skills to new examples (ie, transfer).

Two case studies of Latin-American bilingual children were presented by Gutierrez-Clellan and Peña (2001) to exemplify the use of the procedure outlined above. The task used to exemplify the language learning need was expressive vocabulary learning. However the mediated intervention (MLE) introduced learning strategies that would improve the child's performance in a variety of language tasks and generate more global and long-term improvement. The two children, similar in their pre-test vocabulary scores, differed in their post-test improvement and on their qualitative responses to MLE, depicting different profiles of need. One child showed behaviours attributable to language learning difficulty, the other showed more improvement on post-test, and greater ability to transfer her learning to new examples, suggesting no need for specific intervention. Intervention programmes could then be more specifically tailored to elicit the maximum improvement from the children and utilize therapy time effectively.

Narrative is another area in which CLD children differ from children with English as a first language. The assessment of narratives must accommodate the cultural and socialization experiences of different children (Gutierrez-Clellan and Peña, 2001). The profiles of three children presented by Miller *et al.* (2001) demonstrated the differing responsiveness to mediation, and variable potential for change, of individual children either with language impairment or from linguistically diverse backgrounds. Most notably, one child with an African-American background, who was thought to possibly have auditory processing difficulties showed herself to be responsive to learning strategies and was not thought to be in need of ongoing support, whilst the child with language impairment progressed far more slowly and benefited only from more intensive and structured mediation.

The areas of vocabulary learning and narrative have been addressed within the DA paradigm, but the study of narratives has not yet been used to determine whether groups can be differentiated in the way they can use vocabulary measures. Thus far, these have only been used to produce qualitative descriptions of modifiability. In addition, Peña and Gillam (2000), have used DA of 'explanatory discourse', a task requiring children to explain the situation presented in a picture, again in a qualitative way, to determine intervention needs of older children and adolescents referred for language assessment. They have again presented case studies that use the amount of improvement through MLE and amount of the examiner effort, to recommend the targets for intervention and the nature of therapeutic intervention.

Potential problems of DA

The validity and reliability of DA procedures has been questioned (see Haywood and Tzuriel, 2002), a particular concern being the lack of inter-rater reliability. The use of non-standardized, individualized, clinically-oriented assessments inevitably presents a dilemma here. Attempts to standardize the role of the assessor rob DA of the flexibility to follow the child's leads, probe areas of weakness and investigate strategies being used. Use of a structured framework, such as Feuerstein's cognitive map, which clarifies the parameters of the assessment, could go some way towards making interpretation of the findings more accessible to others and improving reliability.

DA has been criticized as being a 'teacher intensive', time-consuming process (Deutsch and Reynolds, 2000). It can be argued, however, that the investment of time at the assessment stage is worthwhile if it leads to more detailed knowledge of children, and clearer implications for intervention are obtained.

Deutsch and Reynolds (2000) explore some of the difficulties impeding the spread of DA practice among educational psychologists in the UK. These include (as they do for SLTs), the demand by education authorities for standardized test scores. They also stress the need for results of DA by psychologists to be clearly and explicitly conveyed to teachers, to whom the constructs and terminology may be unfamiliar. They conclude that 'DA deserves to be extended and developed further in the UK' (Deutsch and Reynolds, 2000: 330) and make recommendations to encourage its use, such as making training more widely available and accredited, and encouraging services to be more accepting of alternative approaches that could be used to assess and support children at risk of failure, such as DA.

Elliott (2003) views DA as a means to determine whether a child requires special education and argues that decisions about placement in an inclusive education system are less relevant than issues of resource allocation. A key issue may be the amount of intervention or assistance a child needs to maintain his/her place in mainstream school. Furthermore, if the recommended intervention is not available in the environment, a child may not reach the potential identified in the DA procedure (Tzuriel, 1992, cited by Elliott, 2003). The usefulness and predictive validity of the dynamic measure will still therefore, be subject to the limitations of intervention and resources.

Summary: where to next?

There is apparent need and rationale for both the research and clinical applications of DA to be implemented in the UK. The sensitivity of measures

developed to date needs to be investigated in the UK population which has different languages and cultural influences from the Latino and African American groups studied in the United States. Waters and Stringer (1997) point out the need to establish 'home grown' procedures, materials and methods, accessible to practitioners in the UK and devised for the context and cultural mix of the UK population. Procedures should be geared to implementation in the context of both clinical practice of SLT and collaboration in educational settings.

Questions regarding the contribution of DA procedures to management issues in SLT need to be addressed, and procedures for implementing assessments to yield practically useful and prognostic information need to be devised and validated on different populations. Procedures for the dynamic assessment of language are largely in the experimental stages of development (see Peña and Gillam, 2000). DA assessments of cognitive ability in conjunction with observation by an SLT have been found to be valuable in formulating intervention plans in some areas of language alongside educational, social and behavioural targets (Slattery, 2005).

Effective use of DA aims to improve the outcomes of intervention by enabling the intervention programme to be targeted more specifically towards the client's needs, in terms of type, amount and intensity of facilitation and support. Crucially, the differentiation of children with language impairments from those achieving poor language scores for other reasons, is identified, in order that intervention can be tailored more specifically to their individual needs. This needs investigation in the diverse populations of children seen in the UK. Different aspects of language need investigation. Expressive vocabulary and narrative have been most widely studied but other areas of language processing are relevant. Validity of procedures should be established by relating findings of assessments to static measures, parent/teacher/therapist ratings, and outcomes of intervention. Whether cognitive assessments, non-verbal scales and existing DA procedures, such as some subtests of the LPAD, can contribute to the formulation of remedial programmes, should also be investigated.

A sample of outstanding questions that need to be explored in the future might include:

- 1) Can we differentiate modifiability, stimulability or learning potential in groups of children so as to determine children in the population who will require specific SLT intervention in order to progress, as opposed to those for whom language enrichment programmes, or teaching geared to bilingual populations, would be more applicable?

The question needs to be applied to general UK populations and, in order to be maximally useful, assessment procedures devised should be easy for SLTs to use without a great deal of additional training.

2) Can we then standardize and possibly quantify, methods for measuring responsiveness to language learning in the individual child?

That is, can we incorporate a dynamic component into testing, that enables prediction of improvement with a specific type of intervention (or without intervention) – that is useful for all SLTs. This may include the use of a modifiability rating scale.

3) How can we use DA methods to identify which approaches to intervention and how much intervention will benefit a particular child?

This aim is more consistent with the individualized clinical uses of DA, and would therefore best be addressed by single case studies. Single case study methodology produces meaningful and reliable data at the level of the individual (Robson, 2004), and collecting multiple single case studies will contribute to an evidence base to support the usefulness of DA in devising appropriate interventions.

The time is right for development of DA procedures by SLTs in the UK, in order to improve their assessments by focusing on the needs of the individual, and by increasing the predictive validity of their tests for the planning of resources. The need for research in a variety of directions and towards a multitude of ends is vast, but it is clear that we need to make a start, and work towards an answer to the fundamental question, posed by Elliott (2001: 189): ‘Do interventions based upon the results of dynamic testing provide superior gains?’

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