The Effect of Dynamic Assessment on Language Learning: A Review of Literature

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Abstract. Researchers have historically noted the importance of Dynamic Assessment (DA) and its effect on students’ language learning. DA offers teachers and learners vast opportunities for language teaching and learning. The present article can be considered as part of the recent trend in the field of language teaching. It attempts to describe Dynamic Assessment (DA) and review the literature on the effect of DA on language learning. It also describes different concepts related to DA and highlights the differences between the two approaches to DA. The article concludes that teachers’ mediation and intervention and students’ active involvement in the process of development can reduce and overcome the obstacles to learning.

Keywords: Dynamic assessment, language learning, language teaching

1. Introduction

The concept of DA stems from both Vygotsky’s (1978) learning theory and Feurstein’s (1979) theory of mediated learning experience. Vygotsky’s (1978) conceptualization of Zone of Proximal Development (ZPD) suggested that learning can be greatly facilitated in interactions between students and a more knowledgeable and experienced person. Furthermore, students develop the mental functioning required in social interaction within ZPD (Brown, 2004).
Although DA has its roots in Vygotsky’s concept of ZPD, he himself did not use the term DA (Pohner & Lantolf, 2005). According to them, it was A. R. Luria (1961), one of Vygotsky’s most influential colleagues, who contrasts statistical with dynamic approaches to assessment. Kristen Nielsen (2012) asserted that according to Luria, although statistical assessment is grounded in sound psychometric principles, it assumes that a person’s solo performance on a test represents a complete picture of the individual’s capabilities. DA, on the other hand, argues that a full picture needs two additional bits of information: the person’s performance with assistance from someone else and the extent to which the person can benefit from this help, not only in completing the same task or test, but also in transferring this mediated performance to different tasks or tests. DA insists that any assessment that fails to determine the extent to which a person’s performance is modifiable is incomplete. Nevertheless, if one examines traditional statistically based assessment, because of the accountability of psychometric principles, considers change in the person’s performance during the administration of the assessment as a threat to these principles, in particular, test reliability (Lidz, 1991; Haywood et al., 1990).

2. Dynamic Assessment and Sociocultural Theory of Mind

According to Vygotsky (1978), Sociocultural theory is concerned with the development of individuals over time. Learning is not fixed; in fact it is dynamic and developmental. The developmental focus is on individuals’ potential abilities which depend fundamentally on mediation or learning supports such as reminders, examples, models, graphics, illustrations, further questions, explanations and elaborations, as well as encouragement. They are used to move the learning forward in the zone of proximal development. The individuals’ learning and achievement are mediated by supportive interactions with other individuals and this interaction is basic to learning. To understand learners’ learning and potential development, it’s important to consider both what they are able to do on their own and what they can do with others in social interaction. According to Lantolf (2000), one of the main concepts of sociocultural theory is its claim that the human mind is mediated. He
asserted that Vygotsky believes in a crucial role for what he calls ‘tools’ in humans’ understanding of the world and themselves. Lantolf also claimed that in Vygotsky’s opinion, humans do not act directly on the physical world without the intermediary of tools. Whether symbolic or signs, tools are artifacts created by humans under specific cultural and historical conditions, and as such they carry with them the characteristics of the culture in question. In fact, tools are used to solve problems that cannot be solved in their absence. They also have an influence on the individuals who use them. They give rise to previously unknown activities and previously unknown ways of conceptualizing phenomena in the world. So, they are subject to modification as they are passed from one generation to the next, then each generation modifies them in order to meet the needs and aspirations of its individuals and communities. Sociocultural theory assumes that learning comes about not through interaction but in interaction. Learners first succeed in performing a task with the help of another person and after understanding the task, they can perform it on their own. In fact, social interaction is advocated to mediated learning (Ellis, 2000). The theory goes further to say interactions that mediate learning are those in which the individual learners scaffold the new task. However, one of the most important contributions of this theory is the distinction Vygotsky made between the child’s actual and potential levels of development or what he calls Zone of Proximal Development (ZPD).

3. Dynamic Assessment and the Zone of Proximal Development

Vygotsky’s zone of proximal development is an important concept that elaborates the dimensions of school learning. It investigates the idea that what children can achieve with the assistance of others (social interaction) may be more indicative of their mental development than what they can do alone (Vygotsky, 1978. Vygotsky believed that the ongoing tension between the relationship of learning and development cannot be resolved without the zone of proximal development. According to him, the zone of proximal development defines those functions that
have not yet matured but are in the process of maturation—the “buds” or “flowers” of development rather than the “fruits” of development.

Vygotsky (1978) believed that learning is not development; in fact he asserted that properly organized learning results in mental development and sets into motion a variety of developmental processes that would not occur without the learning process. He claimed that learning is a crucial and universal aspect of the process of developing culturally organized, mostly human psychological functions. And school learning, according to Vygotsky, presents something new into an individual’s development. His (1978) hypothesis includes two main features. The first feature suggested that developmental processes and learning processes do not happen simultaneously, however, developmental processes lags behind learning, which results in zones of proximal development. The second one suggested that although learning directly relates to child development, they are never accomplished at the same time, due to highly complex dynamic relations between development and learning. Vygotsky (1978) gave an example of the zone of proximal development by showing how two children of the same age chronologically (10 years) and mentally (eight years) solve a problem at their developmental level. His example suggested the two children should arrive at the same solutions to the problem, but when the two children are given the chance to solve the problem with help (social interaction and the child’s active participation in the problem); it revealed that one child can solve the problem at a twelve-year-old level, while the other solve it at a nine-year-old level. The difference in their abilities to solve the problem showed that the capability of children with equal levels of mental development differed to a high degree with the teacher’s interaction and guidance. It revealed that they were not mentally at the same age and that the subsequent course of their learning would be different. This difference is what Vygotsky considers as the zone of proximal development which is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (1978). Shayer (2002) argued that a crucial feature of learning according to Vygotsky is that it creates a ZPD, in other words, learn-
ing awakens a variety of internal developmental processes that are able to operate just when the child is interacting with other individuals in his environment and relation with peers. After the internalization of these processes, they become part of child’s independent achievement. Shayer (2002) noted that despite the attractiveness of the concept of ZPD in its simplicity, its application in practice is more problematic. He mentioned that Vygotsky himself did not suggest much practical advice to how ZPD might be successfully applied in classrooms. Vygotsky left it to others to find effective ways of doing so. It is also important to note that the concept of ZPD does not imply that these levels of learning are hierarchically ordered or neatly sequenced. Actually Shayer claimed that Vygotsky clearly stated that they are not. He also postulated that collaboration and interaction among individuals create a collective ZPD from which each of the learners can draw from as a collective pool.

4. Dynamic Assessment and Mediation

According to Williams and Burder (1997), in Feuerstein’s theory, mediation is central to Vygotsky’s sociocultural theory. Mediation refers to the part played by other people in the learners’ lives, people who increase their learning by selecting and shaping the learning experiences presented to them. Lantolf (2000) noted that mediation and regulation of our relationships with other individuals and us as well as changing these relations, is just possible by application of signs and symbolic tools. Kozulin (2002) claimed that mediators are of two categories: human and symbolic. Based on his opinion, human mediation deals with what kind of involvement on the part of the adults is effective in increasing the child’s performance, while symbolic mediation tries to find the answer to the question concerning what changes in the child’s performance can happen by the introduction of the child to symbolic tools-mediators.

Haywood and Tzuriel (2002) noted that during the interactive mediation, the mediator tries to delineate those behaviors which could be hindering a child’s performance. The mediator carefully observes if the individual responds impulsively, if child is able to follow verbal instructions, and if he or she can solve a problem. In fact, the mediator ob-
serves the limitations of the child’s cognitive functions to identify the casual factor that impedes the child’s learning. Some identifiable obstacles to an individual’s access to effective use of one’s intelligence include ignorance, cultural differences in learning habits, impoverished vocabulary, Motivational variables and inadequate development of cognitive and metacognitive structures and strategies. According to Lantolf and Thorne (2006), what makes a procedure dynamic or not is whether or not mediation is integrated into the assessment process.

5. Dynamic Assessment Versus Static Assessment

Lantolf and Poehner (2004) asserted that DA researchers compared and contrasted their approach with assessment procedures that were not sensitive to the ZPD-procedures they often referred to as Static Assessment (SA). While we are aware of the dangers inherent in dichotomizing different approaches to any scientific enterprise, we nevertheless believe that, it is useful to layout some of the differences between more familiar approaches to assessment and DA. Hessels-Schlatter and Hessels (2009) had a constructive view about the shift from SA to DA. By static assessment, they refer to those classical and psychometric evaluations (e. g., intelligence tests) which are constructed based on the notion of stability. They stated that stability concerns the psychological trait that needs to be stable and not vary during testing. Since the beginning of the twenty first century, many L2 researchers have attempted to outline a monistic view of language instruction and assessment, culminating in DA (Ableeva, 2008; Anton, 2009; Birjandi & Ebadi, 2009, 2010; Jacobs, 2001; Kozulin & Garb, 2002; Lantolf, 2009; Poehner, 2007, 2008; Summres, 2008). Sternberg and Grigorenko (2002) enumerate three methodological differences between SD and DA. First, SA focuses on the outcome of past development, while DA foregrounds future development. Second, the examiner/examinee relationship varies in the two approaches. In SA, examiners are expected to adopt a neutral and disinterested position as a means of minimizing measurement error. In DA the examiner intervenes in the process of assessment as the conventional attitude of neutrality is replaced by an atmosphere of teaching and helping. Third, in SA the examinees receives little or no feedback
on the quality of their performance until the assessment is complete in order not to threaten the reliability of the instrument, while In DA, a specific form of feedback is provided-mediated assistance—and this is the crux of the assessment process. In fact, fill-in-the-blank, multiple-choice, open-ended essay, or even oral proficiency tests are in themselves neither static nor dynamic instruments. Their status is determined by the aim of the procedure and the format in which it is subsequently administered. Thus what makes a procedure dynamic or static is whether or not mediation is integrated with the assessment process not the instrument itself.

Poehner (2008) differentiated DA from Non-Dynamic Assessment (NDA) in that he looked at the assessment from an epistemologically different point of view, that is, the integration of instruction and assessment through intervention in order to develop the abilities being assessed. He also pointed out that DA and NDA refer to administration procedures rather than assessment instruments, so he claimed that any assessment instrument could be used in a dynamic or non-dynamic fashion. Based on his viewpoint, three features could be used to distinguish between DA and NDA:

1. The view of the abilities underlying the procedures
2. The purpose of conducting the assessment
3. The role of the assessor

6. Interventionist Versus Interactionist Approaches to Dynamic Assessment

According to Brown and Ferrara (1985), Interventionist DA deals with quantifying, as an index of speed of learning the amount of help required for individual learners to efficiently reach a pre-specified end point. Interactionist view of DA, on the other hand, focuses on the development of an individual learner, regardless of the effort required and without concern for a predetermined endpoint. Lantolf and Poehner (2004) explained that these models differ in how they approach mediation, while some adhering to scripted prompts and hints, others encouraging open-ended dialogue between mediators and learners. These models are known
as interventionist DA and interactionist DA respectively. According to Sternberg and Grigorenko (2002), two formats exist within interventionist DA: the ‘sandwich’ and the ‘cake’ approaches. In sandwich format of intervention approach which is more in line with traditional non-dynamic forms of assessment, the individuals are administered a test, after which they receive intervention for some sessions and then they receive parallel form of post-test to observe the effectiveness of the treatment (Sternberg & Grigorenko, 2002). According to them, in the cake format, the examinee is provided with mediation drawn from a standardized menu of hints, ranging from implicit to explicit, throughout the administration of the assessment itself. Thus, the ‘cake’ metaphor refers to the layering of items of the test and hints in such a way that a menu of hints can be accessed, as required, for each question or problem before moving on to the next item on the test.

Interactive DA is based on Vygotsky’s idea of cooperative dialoging. This approach focuses on the learner or learners with no predetermined endpoints. It is highly sensitive to ZPD since the assistance emerges from the mediator and learner (Poehner, 2008). According to Allal and Duerey (2000), the interactionist approach has been called teaching in assessment.

7. Empirical Studies on Dynamic Assessment

In the area of DA, many researchers and practitioners have been trying to find out how to link DA with different aspects of language learning and how to better make use of DA in language teaching. DA has been pursued by school and clinical psychologists as a way of more accurately assessing an individual’s potential for future development by embedding instruction in the assessment process itself (Sternberg & Grigorenko, 2002). Tzuriel (2000) explored the dynamic assessment of young children. The theoretical foundations of his study derived from Vygotskian sociocultural theory, and Feuerstein’s mediated learning experience theory. DA had been applied with different clinical and educational groups and was found to be accurate in reflecting children’s learning potential than static tests. The meditational strategy was also reported to be more effective than other intervention approaches.
Anton (2009) investigated the implementation of diagnostic assessment in an advanced Spanish language program at the university level. Particular attention was given to the use of dynamic assessment practices as a way to assess language abilities. Assessment procedures conducted with third-year Spanish language majors with the purpose of illustrating the potential of dynamic assessment for second language learning contexts. The qualitative analysis of the results showed that dynamic assessment allowed for a deeper and richer description of learners’ actual and emergent abilities, which enabled programs to devise individualized instructional plans attuned to learners’ needs.

Lin (2009) conducted an interactive DA study in an EFL context. He found that using a set of pre-formulated hints and mediations would provide teachers with information about students’ needs and their responses to mediation. He also noted that a successful interactive DA program should meet three factors:

1. It should have clear objectives
2. It should include meaningful tasks that are in the learner’s ZPD and that accommodate to pre-formulated hints and mediations.
3. It should enjoy an appropriate rating scale

Nazari (2012) investigated the integration of the assessment and instruction which leaded to a new approach, dynamic assessment, based on the principles of Sociocultural Theory of Mind (SCT) developed by Vygotsky and his colleagues. The study attempted to provide an overview of the literature that set the groundwork for DA. After revising the main literature on DA, the implication was that the learners could greatly benefit from DA-based mediation and that teacher invention, including within the domain of assessment, could be very instrumental in the process of instruction. Another important value of dynamic EFL assessment lied in the fact that its results could be used for the development of individual learning plans for students with different learning needs. At the same time, the review of literature revealed that DA could be a useful framework to be used in language classrooms, as it puts great emphasis on potential rather than final achievement. The general suggestion
could be made that the language teachers should include more forms of dynamic assessment into their curricula if they want to assess the real development of their students.

Meihami and Meihami (2014) investigated different theories in regard to DA and ZPD and outlined recent studies on dynamic assessment (DA) in second language learning classroom. By analyzing and investigating the recent studies they confirmed that DA should be entered to L2 classrooms.

7.1. Reading

Ajideh and Nourdad (2013) investigated the advantages of applying DA for identifying the individual EFL learners’ reading comprehension ability. The findings were in line with the results of their previous study in 2012. The results showed four major differing points among individuals who were previously categorized as having the same reading ability by non-dynamic assessment. It revealed the advantages of applying DA over non-dynamic assessment in deeper and richer descriptions of learners’ abilities by clarifying sources of problem in performance of each individual and the exact stage of the problem because individuals who are unable to answer an item correctly, may not necessarily have the same or even similar problems. DA proved to be efficient in identifying the exact scope of ability for each person, and it provided opportunities for learner development due to its monistic view toward instruction and assessment. It was also concluded that DA presented a way of development not only from past to present but even into future. Assessors should not predict a similar performance in task completion based on proficiency level of test takers and their same or similar non-dynamic assessment scores.

Birjandi, Estaji and Deyhim (2013) investigated the impact of DA on reading comprehension and metacognitive awareness of reading strategy use in Iranian high school learners. The study was applied with 47 intermediate participants. The statistically significant effect was found for the performance of the participants who had received mediation. The results also revealed that the students’ scores in the experimental group were significantly higher than students’ scores in the control group who
underwent the static tests. The findings suggested that DA is an effective means of understanding the learners’ abilities and helping them to overcome reading comprehension problems. Also the study showed that the DA procedures unified instruction and assessment as a single activity. Therefore, the findings of the study were in support of Haywood and Lidz (2007), who explained that DA is an interactive procedure that systematically measures the degree of change that occurs in response to cues, strategies, or task conditions that are introduced during testing. On the other hand, the study revealed that with the classroom setting which is time limited, DA may not be sufficient for developing the learners’ metacognitive awareness of reading strategy use. Other forms of assistance must be put into place to allow for higher metacognitive awareness.

7.2. Writing

Shrestha and Coffin (2012) explored the value of tutor mediation in the context of academic writing development among undergraduate students, following the DA approach that has been developed within Vygotskian sociocultural theory of learning (Vygotsky, 1978). The result of the study indicated that DA can help to identify and respond to the areas that students need the most support. The findings showed that mediation included implicit to explicit assistance. By considering the frequency of the meditational moves, the researchers were able to track the development of the learners in the study and to gain insight into their maturing writing abilities as indicated by the amount and quality of support needed. In another study, Shrestha (2013) investigated the transfer of academic writing skills through DA. The findings suggested that the transfer of academic writing skills and conceptual knowledge occurred more in the texts of the students that underwent DA than that of the student who followed a traditional approach.

Isavi (2012) investigated the effect of DA on Iranian L2 writing performance. In order to further investigate effectiveness of DA, the study applied the regulatory scale offered by Aljaafreh and Lantolf (1994) to Iranian EFL learners’ writing ability. The result of the study showed that a DA approach successfully improved EFL learners’ writing ability.
7.3. Listening and Speaking

Hill and Sabet (2009) investigated the application of dynamic assessment (DA) methods in classroom speaking assessments. The study focused on four particular applications of dynamic speaking assessment (DSA). The first, “mediated assistance” (MA), involved the interaction between a learner and assistor to reveal problems in spoken performance. The second DSA approach was to discover learners’ ability to transfer what they had already internalized to novel problems. Zone of proximal development (ZPD) is the third DSA application and the final DSA approach, “collaborative engagement” (CE) was to diagnose problem areas during DSA. The results showed that the second DSA approach in the form of role-plays of graduated difficulty was a genuine means of assessing development of second language acquisition. MA data revealed that it had significant cumulative improvement not only in learners’ speaking performance but in their reciprocity. Lin (2009) examined the interactive dynamic assessment undertaken by children learning English listening and speaking as a foreign language in a kindergarten, and investigated how an interactive dynamic assessment could be designed to assess young EFL learners, how an interactive dynamic assessment may promote children’s’ EFL learning and what information such an interactive dynamic assessment could generate about the language program and the participating children. In fact this interactive approach was contextualized within an English intervention program and incorporated with a pre-formulated set of supportive mediations for the participation children.

The results of the study revealed that this interactive dynamic assessment differed from traditional non-dynamic assessments in that it included the assessors mediation and thereby generated the information about participating children’s needs and potential responses to mediation. It also demonstrated the effectiveness of an interactive dynamic assessment in promoting children’s EFL learning and supporting teaching. Hidri (2014) addressed the need to examine and improve current assessments of listening comprehension (LC) of university EFL learners. He conducted the study to develop and evaluate a dynamic assessment of listening comprehension in an EFL context. Results of the study
revealed that generally test-takers’ abilities were varied significantly in both modes, with more able students in the dynamic than in the static test.

7.4. Grammar
Jafary, Nordin and Mohajeri (2012) conducted a study to investigate the effect of dynamic assessment on learners’ syntactic knowledge. The main concern of the study was significant difference between dynamic and static assessment and the possible role of these two forms of assessment on the syntactic development of Iranian EFL college preparatory learners. The study was carried out with 60 pre university male learners and the students in the experimental group received mediation in dynamic assessment model which involved some strategies like looking for clues, eliminating the distracters and comparison strategies. The process of mediation was designed to enable teachers to mediate each of the items in an interactive way. The mediation had two stages: manipulation of grammatical and structural point through the strategies and the information paper which was given to the students at the end of each session to work on them at home. The results revealed that the experimental group outperformed the control group. The study proved that dynamic assessment was effective and crucial in improving syntactic knowledge of the learners.

7.5. Vocabulary
Pena et al. (2001) investigated the performance of Spanish-speaking and English-speaking bilingual children on a word-learning task by using pretest-teach-posttest. The results revealed that DA effectively differentiated language differences and children in the mediation group had greater gains from pretest to posttest than those in non-mediation group. Burton and Watkins (2007) conducted a study to measure vocabulary learning of kindergarten children using dynamic approach. Participants were 24 typically developing African American children. The DA of word mapping provided information about complete and partial mapping of words. The results revealed that the use of the dynamic measuring conjunction with traditional vocabulary measures might have the potential to provide an estimate of word-learning ability. The study en-
abled the readers to identify the need for word-learning measures and become familiar with the combined technique of using dynamic assessment and fast mapping. Kapantzoglou, Restrepo and Thompson (2012) mentioned that bilingual children were often diagnosed with language impairment, although they might have fewer opportunities to learn English than English-speaking monolingual children. They examined whether dynamic assessment (DA) of word learning skills was an effective method for identifying language impairment in bilingual children. The results of the study indicated that typical language development (TLD) children made associations between phonological and semantic representations of the new words faster than children with primary language impairment (PLI) did, showing greater modifiability. Findings suggested that a brief DA was a promising method for accurately differentiating children with TLD from children with PLI.

8. Conclusion

Many researchers conducted several studies about the effect of DA on language learning and different skills and sub-skills of language. As far as the previous studies concern, DA has played a critical role in the teaching and learning processes. They indicated that DA is an effective approach that needs to be taken into consideration by language teachers and other applied linguists. The review of previous studies showed a significant difference between dynamic and non-dynamic assessment of reading ability. Also the beneficial effect of DA for EFL learners was found and the effect did not fade over time. In the area of writing the research showed that the students’ writing abilities were improved through DA approach. The results also suggested that a DA approach to writing enabled the teacher to more accurately evaluate learners’ writing skill and after identifying the nature of the error provided the learners with necessary support and, therefore, improve their writing. The use of DA was also effective and crucial in improving listening, speaking, vocabulary and syntactic knowledge of the learners. An investigation of the effect of DA on language learning of learners will contribute to an understanding of basic principles of DA as well as improve the effectiveness of integrating DA in language classes. The present study gave credit to the
effectiveness of DA procedures in learning. It could be inferred the DA creates an innovative context of language learning in comparison with traditional ones, both for learners and teachers. Dynamic assessment is recommended as a valid and useful approach which could serve maximized instruction across age groups (Banks & Neisworth, 1995). The findings of this study concluded that teachers’ mediation and intervention and students’ active involvement in the process of development can reduce and overcome the obstacles to learning. The review of previous studies are encouraging and should be of great benefit to teachers who like to have a more active and interesting class. Teachers must also be prepared to change and adopt their teaching style according to new developments and findings in the pedagogy of dynamic assessment based language teaching.

References


