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Information and Communication Technology to Promote Language Dynamic Assessment in Language Classroom: Revisiting a Selected literature Review

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Abstract: Dynamic assessment is based on considering individual differences and the effective role of environmental aid as provided throughout combining instruction and assessment. It seeks to develop appropriate language skills through diagnosing learners' current level, strengths, weaknesses, and potentials. Under the realm of using information and communication technology to promote teaching and assessing English as foreign language, computerised dynamic assessment is believed to be an interactive assessment which provides opportunities for learning development. Within this sphere, this paper seeks to re-visit a selected review of the literature on language dynamic assessment, shedding light on how the adoption of computer technology can promote language assessment. Therefore, the researchers attempt to describe the implications of the interplay between technology and dynamic assessment in assessing English.

Key words: language, information, communication, technology, English.

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Assessment in Algerian higher education includes two types: formative and summative assessments. The latter determines the students' progress in a given year. It is usually taken in a form of pen-and-a pencil tests. Concerning the formative assessment, students at the three levels, bachelor, master, and doctorate degree, are evaluated through different methods, such as research works, oral or written questions, presentations, homework assignments, reports, and other different methods (Saidani & Khecheni, 2017). Main assessment procedures are only carried out in ordinary classrooms, even though; our universities follow the technology thread for a blended learning for raising the quality of the learning-teaching process.

Alongside the era of internalisation the majority of educational institutions invest a large amount of time, efforts, and resources. Seeking the development to reach high standards, these institutions embrace the use of multinational and multicultural dimensions. Wherefore, the use of information and communication and computer technology is prevailing to be at the foremost not only to promote but also to be the best and sometimes the only method to learn, teach, and assess because of different reasons. For example, the circumstances of Covid-19 pandemic did not allow for the traditional classes to take place due to health care issues. Consequently, online courses and teaching/learning interactions were highly required and implemented to keep the course of education.

Respectively, our higher educational institutions have largely adopted the use of different information and communication technologies (ICTs) to keep the ongoing process of education during these circumstances. In addition to Facebook groups, personal blogs, websites, Algerian universities have embraced the facilities presented by Moodle platform that is an acronym for 'Modular Object-Oriented Dynamic Learning Environment,' as an interactive communicative design. This online programme is a learner-centered and interactive tool that fits well for blended learning which aims to combine the use of ICTs with the traditional classrooms principles. It offers the easy access for teachers to plan learning materials, courses, quizzes, in addition to the opportunities for taking charge of one's own learning for students. Moodle is seen to be an environment of engagement and motivation (Wu, 2008).

Moodle is driven under the constructivist philosophy of education whose main principle is that knowledge and understanding is constructed throughout a conversation between the reality and individuals experiences. The latter has resulted in skills development (Borisove, 2014). Consequently, learning takes place when there is involvement and interaction between different agents of the learningteaching process. This 'technological thread' has been presented at the beginning as a tool for blended learning to encourage the learning and teaching yet it is now used as the main educational tool for interaction.

In the case of foreign language learning, the role of ordinary traditional face-to-face language learning classroom is undeniable. It remarkably influences the promotion of the processes of language development through direct contact, exposure to the target language, and interaction with the teacher. The embracement of information and communication technologies in the area of learning-teaching EFL is not new and has always been supported in the literature. Combining technological methodologies is brought for designing valid tests, motivating, and responding to the needs of learners who are seen to be 'digital natives' (Al-Mahrouqui & Troudi, 2014).

EFL e- learning has used different motivating technological tools, aiming, for example, to develop learners' language competencies which suit individualised communicative abilities, needs, and interests. EFL language assessment field is no exception. It receives technological advancements and support which make this field recently on 'the verge of revolution' (Aryadoust & Fox, 2016). In this sense, many researchers argue for the effectiveness of integrating technology in teaching and assessing language learners. This context is one of the benefits of 'sound assessments' which motivate language learners to be comrades with teachers in the instructional process.

Consequently, developing assessments and tests that are valid, reliable, and learning companion, providing opportunity for learners' language abilities developments, requires teachers' assessment literacy and training (Stiggins, 2007, as cited in Coombe, Troudi, & El-Hamly, 2012). The latter is seen at the heart of embarking and ensuring the success of the educational system because teachers' assessment

knowledge and perceptions affect the teachers' professional skills and learners' achievement (Coombe, Troudi, & El-Hamly, 2012). Henceforth, such effective role has brought by technological innovations and teachers' assessment literacy should be kept in mind when seeking to address assessment as an integral part of a successful instructional process.

1. Dynamic Assessment: Roles and concepts

Dynamic assessment uses mediations, usually in a form of verbal hints like questions, which are individualised to suit language learners' needs in order to help them perform beyond their level. It provides clues about learners emerging abilities (Poehner & Lantolf, 2013, as cited in, Modarresi & Alvi, 2014). Concerning the computerised dynamic assessment (CDA), it refers to computer-based or onlinebased tests that offer specific graduated mediations that suits specific levels of students. In addition, it offers special scoring and evaluation for learners' actual achievement and learning potentials. It aims to get profit from technological developments for a successful and effective instructional process.

Accordingly, this trend to assessment unifies assessment and instructions, enabling the instructor to contribute to abilities' development through mediations that collaborate to the students' needs (Poehner, 2008). Additionally, combining assessment with instructions provides ways of constructing accurate and valid tests. This mainly develops learners' level, especially when focusing to maintain knowledge integration, interaction and individualised instruction and assessment (Pellegrino & Quellmalz, 2010).

Dynamic assessment rests on a set of principles which are mainly related to human cognitive and social development. Major fundamentals of dynamic assessment are individual differences, cognitive processes, the learning potential, the zone of proximal development, and educability. Aiming to integrate assessment with instruction for skills development, dynamic assessment helps teachers to engage their students in an active process of learning and evaluation. Under this context, learners' individual differences are very crucial to decide upon learners' preferences and needs to develop their language skills. In addition, these differences give the opportunity to maximise the individualized learning, instruction, and tests (Haywood, 2012).

Further, concerning processes involved in language assessment, Lidz (1991) emphasised the notion of 'Modifiability'. The latter refers to the change of learner's cognitive and metacognitive abilities in response to an intervention provided for learning development. The latter is affected by learners' differences and learning strategies. Hence, to be developed, teachers should be able to know learners' needs and preferences to tailor the appropriate instructions and tests. The main objective of dynamic assessment is to understand the obstacles that hinder language development and aid learners to overcome them. This put a finger on understanding a set of characteristics of learners and context (Haywood, 2012). Accordingly, in dynamic assessment, the learning process sounds to be the driven point inside the language classroom and the basis for future teaching instructions and assessment.

2. The Adoption of Technology in the Field of Language Assessment

Investigating the effect and role of adopting technology in the field of EFL learning and teaching, Ahmadi (2018) revisited a set of research works that shows the positive effect of technology to improve language skills development. Such effectiveness is largely related to the interactive nature provided by technology integration, besides, it helps to present and deliver comprehensible input and output. Since nowadays learners are used to ICTs, the integration seems to promote autonomy, confidence, and motivation to learn.

The adoption of technology provides a variety of ways to plan and present lessons and tests, in addition to opportunities of and access to teachers-students interaction. Mainly, the major benefit of this adoption is the reduction of teachers' control and the increase of learner-centered learning environment; hence, it reduces learning and test anxiety (Al-Mahrooqui & Troudi, 2014).

Computer assisted language testing (CALT) and computer assisted language assessment (CALA) are complementary innovations from the field of technology integration and use for language learning, computer assisted language learning (CALL), which appeared alongside the use of computers. The adoption of technology was largely due to the advancements provided to overcome problems and obstacles of

language learning/teaching and assessment fields. CALT is utilised for different reasons. Technically, technology can be used as a tool to create language tests. Next, the interaction of candidates with the computer also received attention. Most importantly, ICT is used to evaluate learners' responses to the tests' items. Another interesting version of computer-based tests is the computer adaptive test (CAT) which was designed by the 80's, seeking to evaluate learners based on their levels, the items are chosen considering the previous responses, hence, minding learners' individual differences, knowledge, and abilities (Pathan, 2012).

Although technology covers major daily life activities, its services and achievements can be difficult to reach successfully. To guarantee its benefits and reduce its negative effects, Al-Mahrooqui and Troudi (2012) assure that a set of reconsiderations need to be taken. For example, the availability and access to the tools, internet access, and platforms that are easy to use are of great importance. Another important issue is the ability of teachers and students to use ICTs since it influences their attitudes. Hence, it results in the positive effects of using such tools. Consequently, Pirani (2004, as cited in Al-Mahrooqui & Troudi, 2014) focused on the importance of teachers' technology use training and technology integration in curriculum. Training is regarded as necessary for the success of the integration since inability of using the tools will develop a negative attitude for teachers or/and students and eventually the technology will not provide an opportunity for developing learning/teaching and assessment. Teachers and learners competencies in using technology aids in boosting the likelihood of taking advantage of services as provided by technology inside language learning classroom.

A set of issues and limitations of technology may lead to negative washback such as the constraints of the infrastructures for presenting and assessing natural language, hence; teaching materials and evaluation tasks would be limited. Teachers should cover the areas for language development and learners would be reduced. Further, technology-based tests posit remarkable problems like security and identity issues, technical and training expertise, medium of tests, learners' level-based items, and high-quality responses' automatic scoring (Pathan, 2012). These pitfalls of technology-based assessment

are largely treated in the process of test design. Issues related to fairness, test-taker identity (Monaco, Stewart, Cha, & Tappert, 2013), validity, and reliability are highly regarded by test users (Warner, 2017).

Regardless such limitations, computer-based tests have a wide range of advantages. Technology aids in getting rid of administrative burdens and saving money, energy, efforts, time, and human resources and making evaluation more flexible process. A space of interaction and different types of input is highly provided within computer-based tests. The time, which learners spent while answering a set of items, can help in making different judgments about learners' abilities in solving language related problems, level, test taking strategies and hence make inferences about performance level.

Generally, learners have test anxiety. However, CALT provides a motivating tools and friendly environment to be tested in, hence; changes learners' attitudes towards tests. In the case of computerized dynamic or adaptive tests, learners receive help in form of gradual hints to aid them answer the items. Moreover, immediate feedback and results can be provided by the computerised tests that boost students eager to ameliorate their performance. Integrating technology and language assessment provides a wide range of opportunities and services to promote language development as a primary objective. Individulasing feedback, designing formative assessment, interactive tasks, organising the learning and teaching paths are among the major profits of technology integration (Pathan, 2012; Pellegrino & Quellmalz, 2010).

3. Literature Review: The effect of computerised dynamic assessment

Our context needs to adopt technology-based assessment, precisely; computerised/online-dynamic assessment. This type of assessment provides efficient interaction that is highly required for the language learning development. However, this is not widely used and practised. In the realm of language skills development, many research works recognised the effective role of dynamic assessment, assessment literacy, and technology-based assessment tools.

Under their general objective to examine dynamic assessment (DA) as new approach to test critical thinking, Benmouhoub and Boukhedimi (2019) aimed to investigate the perception of first year English as foreign language (EFL) students about the assessment procedures set by their teachers in addition to teachers' assessment literacy and attitudes towards dynamic assessment in EFL context. After analysing the data collected through questionnaire and semi-structured interview, the researchers found that learners have both positive and negative attitudes towards their teachers' assessment practices, while; they lack the critical thinking ability. The negative attitudes are attributed to teachers' beliefs about the relationship between assessment and learning-teaching processes without paying much attention to making assessment a tool of creativity and boosts learners' ability to think critically.

The majority of assessment items are based on students' ability of knowledge retention. On the other hand, the researchers found that the majority of teachers lack assessment literacy about dynamic assessment but they showed positive attitude towards its use. In addition, there was some inconveniences concerning teachers' assessment practices and teaching methods. Their study calls for understanding the reasons of previously mentioned paradox and investigating the effect of dynamic assessment in our context.

Although they are flexible, mediations as prepared and planed by teachers seek to make the process of learning and assessment successful. The results of the experiment done by Fard and Derakhshi (2019) confirmed that learners who received mediation while being tested, dynamic assessment, outperformed the group that received no mediation or feedback in promoting EFL writing linguistic accuracy.

About assessment literacy, investigating the perceptions and assessment practices of Algerian primary school teachers, Kerma and Ouahmiche (2018) opted for a survey method to collect data from a sample of 156 primary school teacher. More specifically, the researchers aimed to understand whether teachers' assessment knowledge and practices match the teaching approach, competencybased approach. Analysing the results, these researchers learned that the majority of the teachers are less skilled in terms of CBA related assessment such as portfolios and essay questions. Teachers rely on

traditional assessment practices simply because they are less time consuming and effortless in terms of designing and scoring. These practices usually affect learners' motivation and cognitive abilities development that in turn put an impact on the teachers' professional skills. This is due to the lack of assessment knowledge and training.

Considering technology integration, Teo (2012) carried out an action research with 68 university EFL learners from Taiwan for investigating the development of reading comprehension ability through implementing a computerised dynamic assessment. The latter was developed using the Viewlet Quiz3 Software. The data analysis of the pre-test and post-test showed a significant difference between learners' scores. The analyses of reflective portfolios of students revealed that the students remarkably benefitted from the computerised dynamic assessment in developing reading comprehension strategies.

Poehner and Lantolf (2013) carried out a study that ensured a significance of a proposed online-computerised dynamic assessment in L2 development. This assessment evaluated learners' listening and reading comprehension. The tests tracked learners' abilities and assigned three types of scores, one for the actual knowledge of the learners, the second is about learners' ability under support, and the last score, which is called learning potential score, is the difference between the two first scores. The primary results of scores analysis, researchers found that the learning potential scores helps in predicting the future learning and teaching trajectories. Accordingly, researchers called for the use of dynamic assessment principles because they aid to diagnose learners' abilities at different levels. The latter is considered as a point of departure to plan for instructional and assessment tasks that fall under the zone of proximal development of learners and challenge them for future development beyond current level.

In the same vein, Modarresi and Alvi, (2014) developed computerised dynamic assessment of grammar which provided three test scores on the non-mediated, mediated performance, and the learning potential scores. The results of the study from comparing different scores showed that this computer-based assessment was

effective in the sense that it improved learners' abilities performance and development.

Similarly, aiming at investigating the effectiveness of computerised dynamic assessment of second language writing on Iranian writing development, Davoudi and Atia-Tabar (2015) integrated preprogrammed hints while assessing writing skill in its different stages. The results showed that this dynamic assessment provided interactionist environment, which helped the learners' writing to develop, and it was more effective for low achievers.

Based on a sociocultural perspective to language development, Leontjev (2016) undertook a research study that aimed at investigating the effects of computerised dynamic corrective feedback of learners of ESL. Such a feedback aimed at providing hints to learners' to alter and yet develop their language abilities. The findings of this study reported the effective influence of the computerised dynamic assessment on students' performance. Yet, the learners' beliefs concerning the testing had relatively affected the results.

In line with these findings, in their study, Behshad, Davoudi, Amirian, and Ghaniabadi (2018) aimed at investigating learning development through testing English language listening comprehension through an online dynamic test. The results of this study suggested that this type of assessment helps teachers to form predictions about learners developing skills, considering individual differences in order to promote an individualized learning environment.

Likewise, aiming to understand and find learners reading comprehension difficulties and to compare students' scores in static and dynamic assessment, Yang and Qian (2017) carried out a study in which computerised dynamic assessment was implemented to assess Chinese EFL learners' reading comprehension. The results showed that the learners find new words, locating relevant ideas in the text, and making inferences difficult when reading in EFL. In addition, the results from the dynamic test exceeded those from the static one. Further, the students revealed positive attitudes towards the assessment especially for the low achievers.

Likely, a multiple-choice computerised dynamic assessment which provide learners with hints while answering difficult questions provided scores on actual abilities and learning potentials which help

teachers in diagnosing learners' weaknesses and strengths in different language constructs to decide upon future 'individualised learning plans and materials' (Kamrood, Davoudi, Amirian, and Ghaniabadi, 2019).

Zangoi, Zareian, Adel, and Amirian (2019) established web-based dynamic assessment to assess 137 volunteers' pragmatic competence. This assessment included graduated hints and it gave different scores for learners, actual, mediated, and learning potential scores. The results asserted that such a test helped learners to develop their pragmatic competence.

The above-mentioned studies ensured the effectiveness and the efficiency of implementing computerised dynamic assessment in improving language abilities development. Consequently, future research, implementations, and curricular design need to consider these results and encouraging this assessment type adoption and adaptation. Another significant consideration is teachers' assessment literacy, perceptions, and abilities to use computer-based assessment in our underrepresented region. Implications for EFL classroom testing using technology is needed to encourage the promotion of operationalising of this process through its presentation in curricula.

4. Implications of ICT Adoption in Language Assessment

The integration of technology in language dynamic assessment opens door to make evaluative tasks responsive and aligned to instructions, make students able to put their acquired knowledge into practice, focus on the process of solving problems, critical thinking, planning the routes of learning and teaching. In addition, it serves as assessment for and of learning. It provides a wide range of flexibility that helps in taking into account several learners' development related factors, like intellectual abilities. Respectively, teachers should be well knowledgeable and trained concerning the use of CDA in order to present the appropriate help for learners' skills and performance development. Learners also should be capable to interact and help teachers to figure out the needed support. The latter should be flexible to suit the different learning needs (Poehner, 2008).

Taking profit from CALT/CAT/CDA, some embodiments need to be considered. First, computarised tests should be designed in a format that provides easy access to different kinds of tests for both teachers and learners. Test design would be of utility when it permits teachers to adopt and adapt different types of assessment for different reasons, diagnostic tests. Teachers should be able to tailor different tests to understand their learners' performance and abilities. Henceforth, teachers are indeed in a need of training to adopt technology for assessment purposes to maintain the effectiveness of technology based assessment tools in addition to enhance their professional skills.

Since technology is widely spread in language learning/ teaching and assessment and it helps in making the testing and learning individualsed, teachers are highly recommended to follow the flow of computer technology use. Additionally, teachers can receive much information about learners' needs, strengths, and weaknesses. In addition, they can be innovative in terms of tests design that motivates learners to set for tests with no anxiety. On the other side, learners also profit from the opportunity of controlling and taking charge of their language skills development. They can follow the track of their learning. They get rid of test taking anxiety and feel at ease to be tested using a friendly tool. They understand their learning accomplishments and potential. Additional implication is that teachers can control the time by setting deadlines for assignments or test taking and posits different test taking strategies (Pathan, 2012).

With teachers realising the multiple roles and effects of assessment in language skills development, the integration of technology and language assessment will add more benefits to the processes of learning and teaching. Accordingly, computerised tests provide easy access to plan for beneficial and tailored tests, tasks, and instructions as related to learners' abilities and needs. Such flexibility eases the way for learners to demonstrate their real abilities and potentials that in turns gives insights about the appropriate ways to better their learning, teaching, and assessment processes. Using computer technology in answering a test by learners and designing one by teachers induces them to think about different processes of the target test construct and test strategies (Pellegrino & Quellmalz, 2010). This boosts the ability to consider large classroom issues, making language learning more active and

vivid. This can be fully achieved when the integration of ICTs for language learning, teaching, and assessment is included in the curriculum for the aim of developing language skills not only for technological issues (Ahmadi, 2018).

Conclusion

Dynamic assessment affords a dual role in language learning. It helps to make both language learning and teaching interactive and unified. It aids through merging instruction and assessment to promote language skills development and to assess the present level of students. In other words, the fundamental asset of dynamic assessment is the emergence of learners' potentials and the development of skills through assessment. This is called assessment for learning. Learning paths and teaching plans can be deduced and designed from the results of dynamic assessment.

For making dynamic assessment more beneficial for the learningteaching process, integrating technology provides a wide range of flexibility to language learning. Computerised dynamic assessment creates an encouraging environment for learning/ teaching and assessment. It reduces test anxiety and gives the teachers the chance to discover learners' possible skills to be developed and the plans to be used in the future to evolve language learners' abilities to integrate their abilities and think critically when solving language related problems and hence promote performance. Teachers mainly due to the mediation and intervention provide this to students while being tested.

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