

TECHNOLOGY-BASED ASSESSMENT IN THE EDUCATIONAL SETTING

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An explosion of new technologies such as computers, smartphones, tablets, wearable devices directly benefit the learning and teaching process, as well as assessment techniques. The aim of this paper is to review findings from the literature to obtain a deeper understanding of how technology-based assessment (TBA) assists learning and teaching process in the educational setting.

In classrooms, hundreds of schools over the world have employed technology-based assessment systems in formative and diagnostic roles in the service of instruction. These applications support appropriately informative feedback to students and make students' learning experience more personalized. For example, Assisted Study (Assistudy), or the Electronic Diagnostic Assessment System (eDia) are online platforms that support teachers and students with these functions. Additionally, video games can be used as useful vehicles in assessment for learning in classroom situation. In-game activities provide reasonable evidence for enhancing competencies of players (Kim, Almond & Shute, 2016) and for measuring the growth of targeted abilities (Shute, 2011). Game-based assessment such as Physics Playground or Use Your Brainz are particular samples for classroom practice.

In testing, TBA can collect reliable data, improve measurement, orient the student to the testing process, administer and time the test, show score reports immediately or store them individual logfiles. TBA has been proved an effective measurement of constructs or skills that cannot be fully or appropriately captured by paper-based tests. Computers allow to present sound and motion, interact dynamically with test-takers, accept responses through a variety of modes. The benefits of TBA were advocated by a variety of empirical studies (Kröner, Plass, & Leutner, 2005; Csapó, Molnár & Tóth, 2009; Fischer, Greiff, & Funke, 2012; Pásztor, Molnár, & Csapó, 2015; Csapó & Molnár, 2017). The general trend evolves from just computerizing instruction or tests with static tasks of items bank toward measuring more complex competences of real-life problem-solving and collaborative tasks. This has been clearly seen in the development of the Program for International Student Assessment (PISA).

Generally, designers for TBA platforms tend to build on an evidence-centred approach with a multi-stage model to develop flexible applications using both school practice and system-level test. A future application model will include the ongoing gathering, sharing of data for continuous improvement of learning and measure complex competencies accurately.