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INTERCONNECTING THE USE OF ASSESSMENT DATA WITH EDUCATIONAL DESIGN DECISIONS IN THE KINDERGARTEN SETTING

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Abstract:
In the context of modern pedagogy, assessment is not limited to the measurement of performance, but functions as a tool to diagnose, monitor and support the learning path of each child with the ultimate goal of understanding and supporting his or her all-around development. In kindergarten, assessment takes on a formative and diagnostic character as it focuses on the continuous observation, recording and reflective analysis of each child's learning path. Through the systematic and organized collection and analysis of data (such as observations, recordings, work samples, reflective journals, student portfolios, etc.), the kindergarten teacher can understand the needs, interests and particular characteristics of the children. These data provide important evidence to support children's development and learning, but also a valuable basis for making pedagogical decisions related to planning activities, selecting teaching strategies, and shaping a learning environment that meets each child's abilities and challenges. By integrating the context of assessment with the framework of educational design, the construction of a quality learning environment and the active participation of children in the learning process are enhanced, thus promoting their autonomy, self-activity and socio-emotional development. At the same time, the professional development of the kindergarten teacher is promoted through continuous feedback, reflection and informed decision-making. The purpose of this paper is to recognize and understand the importance of the interconnection of assessment with the educational design decision-making process and to highlight their contribution to the everyday educational life of the kindergarten. The results show that the use of assessment data makes the educational design process more flexible, adaptive and effective as it enhances the creation of a qualitative and democratic educational framework in kindergarten that respects and supports the development of each child, laying a solid foundation for his/her future learning and life path.

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1. Introduction

Scientific approaches and pedagogical considerations concerning teaching and learning recognize today the complex and multilevel role played by the teacher in the school environment as a basic element and a necessary condition for the organization of the educational process. Teachers in the modern school make decisions concerning children's development, organize learning and teaching in their classrooms and create a rich learning environment through an active and two-way process of awareness, critical investigation and continuous reflection on the educational practice.

The organization, planning, implementation and evaluation of the educational process are important components of everyday pedagogical practice and a reference point for contemporary scientific theories, research and concepts of learning and teaching of preschool children. The current perception of the new 21st-century curricula, with teachers and students co-constructing educational practice, reflects the reality of the educational process (Rudduck, 2007). Thus, in recent decades, new epistemological approaches in pedagogical sciences and international research data have focused on one of the key parameters of the educational process, which concerns the concept of "educational design".

Educational design is a systematic and reflective process in which the designer determines the appropriate instructional methods and strategies in a defined learning environment with the ultimate goal of achieving each instructional objective (Carr-Chellman, 2011; Chen, 2011; Reigeluth, 1999; Smith & Ragan, 2005). It is a complex process which, according to Antoniou (2012), involves "*the organization of the teaching and learning process based on certain principles, rules and criteria*" (p. 87). Essentially, it refers to the set of actions on the basis of which the teacher is engaged in the study, design and development of teaching strategies and their implementation in a broad educational context with clear expected outcomes for everyone involved in the teaching-learning process.

Today, the concept of educational design refers mainly to systematic and reflective processes and actions of the teacher that are consistent with making informed and pedagogically sound decisions about the organization, form and content of learning and teaching (Smith & Ragan, 2005; Trilianos, 2013; Zook, 2001). In the process of education design, the teacher tries to clearly define key aspects and dimensions of the teaching-learning process, such as developing the content of the learning design, identifying the educational needs of students and their characteristics, organizing a learning environment appropriate for each student, selecting instructional objectives, designing the curriculum and instruction, organizing educational activities, using appropriate tools and resources, and assessing the teaching process.

Thus, the teacher moves within the framework of educational design, assuming a variety of key roles. The teacher is the student's helper in their efforts to learn and the creator of the motivation for effective and quality learning. At the same time, he or she acts as a guide, organizer and planner of the instructional practice considering that the process of instructional design, as a systematic and thoughtful process, leads the teacher to make clear decisions in synthesizing and creating a productive learning environment, while guiding through students to positive learning outcomes (Orlich, Harder, Trevisan, Brown & Miller, 2018; Smith, Chavez & Seaman, 2014).

The development of the teacher's ability to make decisions concerning the educational planning of the classroom is an essential parameter of the pedagogical process. The focus of this paper is a descriptive review of the literature regarding assessment and educational design, focusing on understanding, recognizing and highlighting the value and importance of the connection between educational design and the use of assessment-based data of young children in the context of early childhood care and education.

2. The Concept of Educational Design and Assessment

Taking a brief historical review, the origins of the concept of educational design can be traced back to the early 20th century and the period of emergent behaviorism. The development of educational design as a field of educational research is placed in the 1960s.

Four important scholars who exerted a significant influence on the development and subsequent course of educational design were Skinner with his transformation of behavioural learning principles into planned instruction, Glaser who introduced the term "*design for learning*", Gagné with his "*nine-step theory of instruction*" and Suppes who introduced Information and Communication Technologies (I.C.T.) as a component of educational design. The formation of the prescriptive framework of instructional design has been shaped over the past decades based on the significant influences of the theoretical and philosophical features of behaviorism, social-cognitive behaviorism, cognitivism/constructionism and constructivism (Chen, 2011; Conole, 2012; Seel, Lehmann, Blumschein & Podolskiy, 2017).

Educational planning is necessary for the teacher at each level in order to organize the learning processes and to create an environment of success and mutual action between all those involved in the educational process. In international literature, the concept of educational design is referred to in various terms, such as instructional design or design for learning/learning design.

Zook (2001) emphasizes that instructional design constitutes the central activity in the context of the teaching process as the teacher is responsible for organizing learning through his/her teaching. Teachers plan the course of the educational process by setting clear objectives that influence future decisions, guide instructional actions and define the context of interaction between students and teachers. Teachers' decision-making

regarding content, media and materials, learning activities and the assessment process is highlighted by the author as an important aspect of educational planning and the teaching-learning process in general.

Branch and Kopcha (2014) point out that instructional design is an iterative process in which important processes are implemented, such as the design of expected outcomes, the selection of optimal strategies for the teaching and learning process, the determination of appropriate technologies, the identification of appropriate instructional tools and materials, and the measurement of learner performance. For Seel et al. (2017), instructional design is a useful tool for teachers to design and organize the appropriate learning environment for their classroom context.

Defining the term "assessment" conceptually and in the light of pedagogical science, it is understood that it refers to a systematic process in which data and information are collected, analyzed and interpreted with the main purpose of determining and evaluating the value and effectiveness of educational objectives (Gelfer, Xu & Perkins, 2004; Harlen, 2007; Peters, Harley, Rogers, Smith & Carr, 2009).

The term "assessment" was established by Ralph Tyler (1949) and refers to the process of checking the degree of achievement of the objectives of an educational program. Scriven (1991) points out that assessment is a process of detecting, identifying and evaluating relevant criteria with the importance or value of a person or thing or the results of a process. Taras (2005), adopting Scriven's view, emphasizes that evaluation involves the formulation of a judgment that can be rendered through the use of comparative or numerical estimates. Fitzpatrick, Sanders and Worthen (2004) define evaluation as a process of defining and applying sound and measurable criteria with the ultimate aim of determining the value of an item in relation to predetermined criteria.

Many times, however, the process of assessment is linked to the decision-making process, enabling and facilitating the understanding of teaching methodology and practice (Howell & Nolet, 2000). According to Borich and Jemelka's (1981) view, assessment is seen as a process whose main objective is the collection, analysis and interpretation of information that will facilitate decision-making regarding the effectiveness of a program or the modification of educational methods and procedures.

Similarly, Banta and Palomba (2015) consider assessment as a process of systematically collecting, reviewing and using information about educational programs with the main purpose of improving and developing learning. Including the student in the process of assessment, Meisels (2001) characterizes assessment as a continuous process of collecting comprehensive information concerning specific aspects of children's knowledge, behavior, personality or skill level in order to make meaningful decisions regarding their value.

Also, Rossi, Lipsey and Freeman (2004), point out the research nature of assessment as they define assessment as a systematic process of applying social science research methods to assess the conceptual content, design, implementation and effectiveness of programs. Common to all the above definitions is the fact that assessment

is defined as a systematic and continuous process that functions as a mechanism for assessing, evaluating or making an evaluative judgement about something.

Based on the above considerations, recapitulating the framework for assessment, it constitutes a multifaceted, systematic and organized process of collecting, analyzing and interpreting data and information, using appropriate methods and techniques, with the ultimate objectives of

a) assessing the developmental progress of students,
b) assessing the achievement of curriculum objectives in general and of teaching in particular,
c) the educational planning of the learning process and the making of appropriate strategies and decisions by teachers, and
d) the constant improvement, upgrade and feedback of the instructional practice in class.

3. Assessment and Educational Design: Defining Learning and Educational Planning Pathways

The process of assessment and educational design are interrelated aspects and key functions of the educational practice, as they feed into each other and are used throughout the teaching and learning process, aiming at its continuous improvement and enhancement. They are two important parameters and at the same time basic conditions that co-shape and influence the educational practice, enabling the teacher to continuously improve his/her pedagogical work and achieve better learning outcomes.

A critical role of the teacher in the planning and evaluation of the educational process is to make decisions on various and specific aspects of the daily school practice. Decision making, according to Jacobsen, Eggen, and Kauchak (2011), suggests that the teacher makes choices that affect the effectiveness of the teaching and learning process and "*is strategic in the sense that the choices are based on purposeful and explicitly stated goals*" (p. 90).

Decision-making involves a variety of educational actions such as: target setting, redesigning teaching, adapting the curriculum, evaluating the effectiveness of programmes or teaching practices, etc. (Hamilton et al., 2007). According to Marsh, Pane and Hamilton (2006), data-driven decision making is usually divided into two categories. The first category involves decisions that use data with the ultimate purpose of informing, identifying or clarifying. The second category involves decisions that aim to take action. Such decisions may concern, for example, the adjustment of the curriculum or the reallocation of resources.

For Agaliotis (2011), the decisions taken in the design and implementation of the teaching and learning process can be divided into those that refer to matters of a didactic nature and those that relate to various parameters of the daily educational practice. Decisions relating to didactic issues may concern the choice of teaching method, the form and structure of classroom organisation, while decisions relating to parameters of the

educational practice may relate to the implementation of a programme, possible ways of solving students' interpersonal problems, etc.

Important factors influencing decision making, as Jacobsen, Eggen and Kauchak (2011) point out, are: a) research, b) experience, and c) work context. The results of various research studies provide valuable information regarding teachers' instructional actions and their relationship to the processes of teaching and learning. Experience also seems to guide teachers' decisions to a large extent as it instils feelings of confidence, security and certainty about the teaching actions they use and put into practice. The working context as well as the content of teaching, available resources, the context of classroom relationships and interaction, etc., are important parameters in the decision-making process.

How a teacher competently and effectively manages the complex and multi-layered decision-making process concerning instructional design is also linked to the application of reflective-critical skills. Reflective teachers think about their actions, reflect, question, analyze, seek understanding of the parameters of the educational process, interpret the relationships between expectations and planned actions, evaluate their experiences, review their practices, and proceed to alternative actions through future redesigns (Avgitidou & Gourgiotou, 2016; Jacobsen, Eggen και Kauchak, 2011; Ottesen, 2007; York-Barr, Sommers, Ghere & Montie, 2006).

The use of data in recent decades has been a key strategy for strengthening and improving the education system at all levels (Coburn & Turner, 2012; Goren, 2012). Advocates and researchers of data-driven decision-making appeal to teachers to adopt a continuous and uninterrupted perspective of improving educational practice, emphasizing clear targeting, assessment, and feedback so that they can pose questions, reflect on their practices, and improve learning outcomes through the use of data (Dattnow, Park & Wohlstetter, 2007; Supovitz & Klein, 2003; Wayman, Cho & Johnston, 2007).

Data-driven decision making is not a new educational practice. Based on contemporary pedagogical approaches in the 21st century, data on children's achievement resulting from alternative forms of assessment are receiving the most attention from educational policymakers and school administrators (Earl & Louis, 2013; Marsh, Pane & Hamilton, 2006). Educational decision making, as a process of transforming data into information and applicable knowledge, is based on the extent to which data and their results are interpreted, analyzed and understood, which provides a clear picture of the context and actors in educational practice (Mandinach & Gummer, 2013).

The decision-making process, which concerns the evolution of the teaching and learning process, constitutes a design matrix which, according to Reigeluth (1996), involves the following activities:

1) the analysis of the needs and characteristics of learners, the content and potential constraints of the educational process,

2) the synthesis of information needed to organize and develop the educational design, and
3) the process of evaluation that takes place throughout the development of the design and that helps identify its weaknesses in order to make the necessary corrective changes.

By using and utilizing data to make instructional design decisions, teachers select certain aspects and dimensions of the data to express their concerns and subsequently negotiate possible solutions (Spillane, 2012). The use of data is greatly enhanced through the collection of evidence in authentic conditions of realizing the educational process and guiding educational decisions. Both the redesign of instruction and a deeper understanding of each child's individual rate of growth and development require the teacher to use 'formative' data, thus aiming to improve their educational practice (Skalski & Romero, 2011). Using data to determine the educational needs of students, the teacher plans and implements new activities through the use of appropriate teaching strategies and assessment methods (Mertler, 2007).

Undoubtedly, understanding, interpreting and using assessment data is an important element in educational decision making (Brookhart, 2011; Heritage & Yeagley, 2005; Herman & Gribbons, 2001). The ultimate goal of using data is to improve teaching and learning through making thoughtful and informed decisions based on the relevant data (Archer, Scherman & Howie, 2013; Lai & Schildkamp, 2013). Making instructional decisions based on evaluative data can lead to sustainable improvement by providing teachers with appropriate feedback regarding the effects of their instructional design on children's learning journey (Lai & Schildkamp, 2013; Schildkamp & Ehren, 2013; Wayman, Spikes & Volonnino, 2013).

Thus, at a practical level, the process of assessment works in its formative and final dimension when data and evidence regarding students' growth and development are extracted, analysed, interpreted and used by the teacher and students to make decisions about next steps in order to improve and enhance the process of learning and teaching (Black & Wiliam, 2009; Carter & Nutbrown, 2013; Pedder & James, 2012; Wiliam, 2018).

More specifically, according to the literature (Black & Wiliam, 2003; Brookhart, 2010; Chappuis & Stiggins, 2002; Hamilton et al., 2009; Goldman & Pellegrino, 2015; Kirylo, 2016; McMillan, 2005; Mertler, 2014; Young & Kim, 2010), the teacher utilizes the data of formative and final assessment, in the context of planning the educational process, when:

a) evaluates and adapts the teaching process either at the individual or group level,
b) analyses the evaluative data and understands the need to organize teaching interventions for the benefit of students who need support,
c) organizes and plans the development of children's learning by systematically assessing outcomes;
d) continuously reflects on the effectiveness of the teaching approaches and strategies used in daily educational practice;
e) proceeds to redesign the teaching and learning process based on evaluative data;

f) uses feedback mechanisms, facilitating dialogue and discussion between teachers and students; and
g) provides opportunities for student self-evaluation in order to focus on strengths and identify areas for possible improvement.

4. Afterword-Conclusion

Today, as evaluation is an integral part of the kindergarten programme, research data show that, as a process, it is closely linked to the feedback of the educational process and its improvement in all aspects of planning and implementation. Thus, educational design decision-making is a process of the utmost importance, arising naturally from the process of analysis and utilization of evaluative data and a systematic process, oriented to the basic purpose of improving the educational work and the development and growth of young children.

Undeniably, the use and exploitation of evaluation data is a springboard for designing educational interventions or action plans within the educational process framework. Therefore, by collecting data and interpreting data from the assessment, the teacher makes decisions about future educational interventions with the ultimate goal of providing ongoing support for the child and designing appropriate learning goals and strategies customized to the child's needs.

In the international literature, the design of the educational process is an important component of educational practice as it is consistent with making important decisions concerning the content, form and context of the teaching and learning process (Smith & Ragan, 2005; Zook, 2001). Therefore, educational design is considered essential in any context in order to organize the learning process and create successful conditions for effective enhancement of students' learning and progress. It is an important process, which undoubtedly determines the course of the educational act and defines, in an organised and methodical way, the common framework for the interaction of all those involved in a defined educational context (Britain, 2004; Seel, Lehmann, Blumschein & Podolskiy, 2017).

Undoubtedly, the current era is characterized by the phenomenon of excessive production of information and data resulting from student assessment. The process of the volume of evaluative data constitutes a significant challenge for teachers to facilitate both the evaluation of the teaching and learning process and the design of appropriate educational programmes. Making educational decisions concerning learning and teaching is the challenge of contemporary pedagogical approaches as it involves the teacher, with the assistance of the students, in a complex process of decoding evaluative data, redesigning educational action and implementing appropriate interventions to adequately respond to the changing needs of young children and support their learning and development (Goldman & Pellegrino, 2015; Mandinach & Gummer, 2013; Young & Kim, 2010).

Conflict of Interest Statement

The author declares no conflicts of interest.

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Anastasios Pekis is a laboratory teaching staff member in the Department of Preschool Education of the University of Crete. He graduated from the Department of Early Childhood Education at the University of Thessaly. He has a Master's degree in the Educational Studies Department from the Open University of Cyprus and a PhD from the Department of Preschool Education of the University of Crete. Since 2022, he has been teaching at the Department of Preschool Education of the University of Crete the courses "Teaching Practice-Level II, III" & "B.Ed. dissertation on topics in early childhood education". He has published research articles and studies in journals, books and conference proceedings in English and Greek. His field of specialization is "Early childhood assessment". His other current research interests concern "Teaching methodology at early childhood".

References

Agaliotis I, 2011. Educational assessment of students with learning and adaptation difficulties. The assessment system of learning needs. Athens: Grigoris.

Antoniou Ch, 2012. Teacher Education. Athens: Patakis.

Archer E., Scherman V., & Howie S, 2013. Approaches to effective data use: Does one size fit all? In: K. Schildkamp, M. K. Lai & L. Earl (Eds.), Data-based decision making in education: Challenges and opportunities, New York: Springer, pp. 91-112. http://dx.doi.org/10.1007/978-94-007-4816-3

Avgitidou S, & Gourgiotou E, 2016. The teacher as a reflective professional. In: S. Avgitidou, M. Tzekaki, & V. Tsafos (Eds.), Teacher candidates observe, intervene and reflect, Volume 1, Athens: Gutenberg, pp 9-92.

Banta T, & Palomba C, 2015. Assessment essentials. Planning, implementing, and improving assessment in higher education. San Francisco, CA: Jossey-Bass. Retrieved from https://www.wiley.com/en-us/Assessment+Essentials%3A+Planning%2C+Implementing%2C+and+Improving+Assessment+in+Higher+Education%2C+2nd+Edition-p-9781118903322

Black P, & Wiliam D, 2009. Developing the theory of formative assessment. Educational Assessment, Evaluation and Accountability, 21(1): 5-31, https://doi.org/10.1007/s11092-008-9068-5

Borich G D, & Jemelka R, 1981. Definitions of program evaluation and their relation to instructional design. Educational Technology, 21(8): 31-38. Retrieved from https://www.jstor.org/stable/44422617

Branch R M, & Kopcha T J, 2014. Instructional design models. In: J. M. Spector, M. D. Merrill, J. Elen & M. J. Bishop (Eds.), Handbook of research on educational

communications and technology, New York, NY: Springer, pp 77-87. Retrieved from https://link.springer.com/book/10.1007/978-1-4614-3185-5

Britain S, 2004. A review of learning design: Concept, specifications and tools. A report for the JISC E-learning pedagogy programme. Retrieved from https://staff.blog.ui.ac.id/harrybs/files/2008/10/learningdesigntoolsfinalreport.pdf Accessed 12 May 2025.

Brookhart S, 2010. Mixing it up: Combing sources of classroom achievement information for formative and summative purposes. In: H. Andrade & G. Cizek (Eds.), Handbook of formative assessment, New York, NY: Routledge, pp 279-296. Retrieved from https://www.routledge.com/Handbook-of-Formative-Assessment/Andrade-Cizek/p/book/9780415993203?srsltid=AfmBOoqjio3DjDsVpozW_BlMzDPjRROH1Qgdn3KGt79dSW4rsszQYWJ9

Brookhart S, 2011. Educational assessment knowledge and skills for teachers. Educational Measurement. Issues and Practice, 30(1): 3-12. https://doi.org/10.1111/j.1745-3992.2010.00195.x

Carr-Chellman A, 2011. Instructional design for teachers. Improving classroom practice, New York: Routledge. Retrieved from https://www.routledge.com/Instructional-Design-for-Teachers-Improving-Classroom-Practice/Carr-Chellman/p/book/9781138776814?srsltid=AfmBOopWSoaJP9o7l1OIAlLR8uP0Z4ZLuHdVrOj4oSjmLJSrnFw7hpPP

Carter C, & Nutbrown C, 2013. The tools of assessment: Watching and learning. In: G. Pugh & B. Duffy (Eds.), Contemporary Issues in the Early Years, London: Sage, pp 127-143. Retrieved from https://books.google.ro/books/about/Contemporary_Issues_in_the_Early_Years.html?id=m8hCu8mYHjsC&redir_esc=y

Chappuis S, & Stiggins R J, 2002. Classroom assessment for learning. Educational Leadership, 60(1): 40-44. http://hssdnewteachers.pbworks.com/w/file/fetch/50394085/Classroom.Assessment.for.Learning.Chappuis.pdf Accessed 11 April 2025.

Chen I, 2011. Instructional design methodologies. In: Information Resources Management Association (Ed.), Instructional design. Concepts, methodologies, tools and applications, Hershey, PA: IGI-Global, pp 80-94. http://dx.doi.org/10.4018/9781599048659.ch001

Coburn C E, & Turner E O, 2012. The practice of data use: An introduction. American Journal of Education, 118(2): 99-111. Retrieved from https://www.journals.uchicago.edu/doi/abs/10.1086/663272?journalCode=aje

Conole G, 2012. Designing for Learning in an Open World, New York: Springer. Retrieved from https://link.springer.com/book/10.1007/978-1-4419-8517-0

Datnow A, Park V, Wohlstetter P, 2007. Achieving with data. How high-performing school systems use data to improve instruction for elementary students. Los Angeles, California: Center on Educational Governance, Rossier School of

Education, University of Southern California. http://people.uncw.edu/kozloffm/AchievingWithData.pdf Accessed 21 May 2025.

Earl L, & Louis, K S, 2013. Data use: Where to from here? In: K. Schildkamp, M. K. Lai & L. Earl (Eds.), Data-based decision making in education: Challenges and opportunities, New York: Springer, pp 193-204. http://dx.doi.org/10.1007/978-94-007-4816-3

Fitzpatrick J L, Sanders J R, & Worthen B R, 2004. Program evaluation: Alternative approaches and practical guidelines, New York: Pearson Education. Retrieved from https://www.pearson.com/en-us/subject-catalog/p/program-evaluation-alternative-approaches-and-practical-guidelines/P200000001037/9780137547722?srsltid=AfmBOopsz5s_s0jlVlyI-UGV2QXOmAV8scJvtHNBDkQsl1BFT_u1luu7

Gelfer J, Xu Y, & Perkins P, 2004. Developing portfolios to evaluate teacher performance in early childhood education. Early Childhood Education Journal, *32*(2): 127-132. https://doi.org/10.1007/s10643-004-1079-3

Goldman S R, & Pellegrino J W, 2015. Research on learning and instruction: Implications for curriculum, instruction, and assessment. Policy Insights from the Behavioral and Brain Sciences, 2(1): 33-41. https://doi.org/10.1177/2372732215601866

Goren P, 2012. Data, data, and more data-What's an educator to do? American Journal of Education, 118(2): 233-237. Retrieved from https://www.journals.uchicago.edu/doi/10.1086/663273

Jacobsen D A, Eggen P, & Kauchak D, 2011. Teaching methods. Enhancing children's learning from kindergarten to high school, Athens: Diadrasi. Retrieved from https://books.google.ro/books/about/Methods_for_Teaching.html?id=3vxWAAAAYAAJ&redir_esc=y

Hamilton L, Halverson R, Jackson S, Mandinach E, Supovitz J, & Wayman J, 2009. Using student achievement data to support instructional decision making (NCEE 2009-4067), Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dddm_pg_092909.pdf Accessed 27 May 2025.

Harlen W, 2007. Assessment of learning, London: Sage Publications. http://dx.doi.org/10.4135/9781446214695

Heritage M, & Yeagley R, 2005. Data use and school improvement: Challenges and prospects. In: J. L. Herman & E. Haertel (Eds.), Uses and misuses of data for educational accountability and improvement: 104th yearbook of the National Society for the Study of Education, Part 2, Malden, MA: Blackwell, pp 320-339. http://dx.doi.org/10.1111/j.1744-7984.2005.00035.x

Herman J, & Gribbons B, 2001. Lessons learned in using data to support school inquiry and continuous improvement: Final report to the Stuart Foundation, Los Angeles,

CA: University of California, Center for the Study of Evaluation (CSE). Retrieved from https://cresst.org/wp-content/uploads/TR535.pdf

Howell K, & Nolet V, 2000. Curriculum-based evaluation, teaching and decision making, Scarborough, Ontario: Wadsworth/Thompson Learning. Retrieved from https://books.google.ro/books/about/Curriculum_based_Evaluation.html?id=Yyh4QgAACAAJ&redir_esc=y

Kirylo J D, 2016. Teaching with purpose. An inquiry into the who, why, and how we teach, Lanham, MD: Rowman & Littlefield. https://books.google.ro/books/about/Teaching_with_Purpose.html?id=10ynjwEACAAJ&redir_esc=y

Lai M K, & Schildkamp K, 2013. Data-based decision making: an overview. In: K. Schildkamp, M. K. Lai, & L. Earl (Eds.), Data-based decision making in education: Challenges and opportunities, New York: Springer, pp 9-22. Retrieved from https://link.springer.com/book/10.1007/978-94-007-4816-3

Mandinach E B, & Gummer E S, 2013. A systemic view of implementing data literacy in educator preparation. Educational Researcher, 42(1): 30-37. https://doi.org/10.3102/0013189X12459803

Marsh J A, Pane J F, & Hamilton L S, 2006. Making sense of data-driven decision making in education. Evidence of recent RAND research (OP-170), Santa Monica, CA: Rand. https://www.rand.org/pubs/occasional_papers/OP170.html Accessed 31 May 2025.

McMillan J, 2005. Understanding and improving teachers' classroom assessment decision making: Implications for theory and practice. Educational Measurement: Issues and Practice, 22(4): 34-43. https://doi.org/10.1111/j.1745-3992.2003.tb00142.x

Meisels S J, 2001. Fusing assessment and intervention: Changing parents' and providers' views of young children. Zero to Three, 21(4): 4-10.

Mertler C A, 2007. Interpreting standardized test scores, Thousand Oaks, CA: Sage. Retrieved from https://sk.sagepub.com/book/mono/interpreting-standardized-test-scores/toc

Mertler C A, 2014. The data-driven classroom. How do I use student data to improve my instruction? Alexandria, USA: ASCD. Retrieved from https://www.sciepub.com/reference/248765

Orlich D C, Harder R J, Trevisan M S, Brown A H, & Miller D E, 2018. Teaching strategies. A guide to effective instruction Boston, MA: Cengage Learning. Retrieved from https://books.google.ro/books/about/Teaching_Strategies_A_Guide_to_Effective.html?id=tyPEGGOOZSEC&redir_esc=y

Ottesen E, 2007. Reflection in teacher education. Reflective Practice. International and Multidisciplinary Perspectives, 8(1): 31-46. https://doi.org/10.1080/14623940601138899

Pedder D, & James M, 2012. Professional learning as a condition for assessment for learning. In: J. Gadner (Ed.), Assessment and learning, London: Sage, pp 33-48.

Peters S, Hartley C, Rogers P, Smith J, & Carr M, 2009. Early childhood portfolios as a tool for enhancing learning during the transition to school. International Journal of Transitions in Childhood, 3: 4-15. Retrieved from https://researchcommons.waikato.ac.nz/entities/publication/0fdc9b98-5df0-4755-aac9-1b11c406daf2

Reigeluth C M, 1996. A new paradigm of ISD? Educational Technology, 36(3): 13-20. Retrieved from https://www.jstor.org/stable/44428335

Rossi P, Lipsey M, & Freeman H, 2004. Evaluation. A systematic approach, Thousand Oaks, California: Sage Publications. Retrieved from https://books.google.ro/books/about/Evaluation.html?id=QF9WBAAAQBAJ&redir_esc=y

Rudduck J, 2007. Student voice, student engagement, and school reform. In: D. Thiessen & A. Cook-Sather (Eds.), International Handbook of Student Experience in Elementary and Secondary School, Dordrecht: Springer, pp 587-610, https://doi.org/10.1007/1-4020-3367-2_23

Schildkamp K, & Ehren M, 2013. From "intuition" to "data"-based decision making in Dutch secondary schools? In: K. Schildkamp, M. K. Lai & L. Earl (Eds.), Data-based decision making in education: Challenges and opportunities, New York: Springer, pp 49-68. Retrieved from https://link.springer.com/book/10.1007/978-94-007-4816-3

Scriven M, 1991. Beyond formative and summative evaluation. In: M. W. McLaughlin, & D. C. Philips (Eds.), Evaluation and education: At quarter century, Chicago: University of Chicago Press, pp 19-64. https://doi.org/10.1177/016146819109200603

Seel N M, Lehmann T, Blumschein P, & Podolskiy O A, 2017. Instructional design for learning. Theoretical foundations, Rotterdam, The Netherlands: Sense Publishers. Retrieved from https://link.springer.com/book/10.1007/978-94-6300-941-6

Skalski A K, & Romero M, 2011. Data-based decision making. Principal Leadership, 11(5): 12-16. Retrieved from https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=1165c2c91f145a9c5ddf32292b1142e8f8a22a57

Smith P L, & Ragan T J, 2005. Instructional design, New York: John Wiley & Sons, Inc. Retrieved from https://www.wiley.com/en-us/Instructional+Design%2C+3rd+Edition-p-9780471393535

Smith S K, Chavez A M, & Seaman G W, 2014. Teacher as architect: Instructional design for the modern teacher, NV, USA: Modern Teacher Press. Retrieved from https://www.abebooks.com/9780983886228/Teacher-Architect-Instructional-Design-Delivery-0983886229/plp

Spillane J P, 2012. Data in practice: Conceptualizing the data-based decision-making phenomena. American Journal of Education, 118(2): 113-141. http://dx.doi.org/10.1086/663283

Supovitz J A, & Klein V, 2003. Mapping a course for improved student learning: How innovative schools systematically use student performance data to guide

improvement. CPRE Research Reports. Retrieved from https://repository.upenn.edu/cgi/viewcontent.cgi?article=1040&context=cpre_researchreports Accessed 31 May 2025.

Taras M, 2005. Assessment - summative and formative - Some theoretical reflections. British Journal of Educational Studies, 53(4): 466-478. https://doi.org/10.1111/j.1467-8527.2005.00307.x

Trilianos Th A, 2013. Teaching methodology, Athens: Diadrasi.

Tyler R, 1949. Basic principles of curriculum and instruction, Chicago: University of Chicago Press. Retrieved from https://press.uchicago.edu/ucp/books/book/chicago/B/bo17239506.html

Wayman J C, Cho V, & Johnston M T, 2007. The data-informed district: A district-wide evaluation of data use in the Natrona County School District, Austin, Texas: The University of Texas. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.535.7891&rep=rep1&type=pdf Accessed 30 May 2025.

Wayman J C, Spikes D D, & Volonnino M R, 2013. Implementation of a data initiative in the NCLB era. In: K. Schildkamp, M. K. Lai & L. Earl (Eds.), Data-based decision making in education: Challenges and opportunities, New York: Springer, pp 135-154. http://dx.doi.org/10.1007/978-94-007-4816-3_8

Wiliam D, 2018. Embedded formative assessment, Bloomington: Solution Tree Press. Retrieved from https://cloudfront-s3.solutiontree.com/pdfs/Reproducibles_EFA/The-Main-Idea-Embedded-Formative-Assessment-March-2013.pdf

York-Barr J, Sommers W A, Ghere G S, & Montie J, 2006. Reflective practice to improve schools. An action guide for educators, Thousand Oaks, California: Corwin Press. Retrieved from https://eric.ed.gov/?id=ED456572

Young V M, & Kim D H, 2010. Using assessments for instructional improvement: a literature review. Education Policy Analysis Archives, 18(19): 1-40. https://doi.org/10.14507/epaa.v18n19.2010

Zook K, 2001. Instructional design for classroom teaching and learning, New York: Houghton Mifflin Company. Retrieved from https://search.library.uq.edu.au/discovery/fulldisplay?vid=61UQ_INST:61UQ&mode=advanced&tab=61UQ_All&offset=40&docid=alma991005620929703131&query=sub,exact,%20Instructional%20systems%20--%20Design,AND&context=L&adaptor=Local%20Search%20Engine&search_scope=61UQ_All&lang=en