

## BOOK REVIEW

Reid, N., & Ali, A. A. (2020). *Making sense of learning: A research-based approach*. Springer.

Reviewed by *Vanda Peto*\*

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According to Piaget, humans seek to make sense of their environment. Similarly, the authors of the reviewed book have been aiming to make sense of learning, and research findings related to it. *Making Sense of Learning, A Research-Based Approach*, by Norman Reid and Asma Amanat Ali, was published by Springer in 2020. The purpose of the publication has been “to draw together research in many areas of education to provide the basis for the future enhancement of education” (Reid, N., & Ali, A. A., 2020, p. 455). For this reason, a huge number of educational articles, PhD theses, and other quality pieces from educational research are collected and arranged logically in the book. These earlier findings were also critiqued, highlighting their current relevance. Furthermore, suggestions for research methods and fruitful future topics are also presented.

Norman Reid, Emeritus Professor at the University of Glasgow, is an experienced educational researcher with more than 75 publications in areas like science education, attitude development, assessment, learner characteristics, educational statistics, and quality assurance. He gained firsthand knowledge of teaching while working as a teacher, educator, and headteacher in secondary and higher education. Asma Amanat Ali, who has also published extensively, is especially interested in curriculum development, assessment, and the nature of learning across the curriculum. She is an IB Educator, Senior Manager and Head of an IB School.

The authors follow a crystal clear structure for each chapter: beginning with a quotation and a general description of the topic, followed by research findings and their practical uses, and concluding with a summary and an “If you want to know more...” section. There are handy illustrations, tables, and keywords emphasised by putting them into frames. As for the topics, they are interrelated, and this is consistently demonstrated throughout the book by linking related parts together to provide readers with a deeper understanding. In the following paragraphs, I intend to highlight some of the major themes and offer a summary for this informative book.

After the Preface (in which the authors state their goals, define their audiences, and briefly explain the topics of book sections) and Acknowledgement parts, the first chapter takes a glance at the educational research. It is stated that educational research is most often of poor quality,

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being rather descriptive and that more quality educational research should be conducted, which could provide widely applicable evidence.

The next four chapters (2–5) outline how students learn. Chapter Two, subtitled “*The Foundations of Understanding*,” deals with great researchers and their findings regarding this topic. The central goal of the learning process is revealed here: it is understanding. The natural way of learning is to seek it. The factors influencing the development of this significant concept are also discussed.

Chapter 3 (*A World of Information*) is one of the most considerable chapters. It explains how the human brain at different ages works and how we should take this into account during education. Special emphasis is placed on working memory and its capacity. Working memory is the place where thinking, understanding, and problem-solving take place. Thus, it has a major controlling role in several aspects of learning, and its limitedness is a crucial factor in education. This chapter presents useful hints for increasing the efficacy of learning while considering the components of people’s memory. Readers can learn about long-term memory (information storage) and sensory memory (information selector). Well, we might experience information overload while reading this book full of valuable research findings, ideas, and insights and thinking about them at the same time. However, the authors help our brains deal with the facts found in their book, for example, by offering recurring notions. Information overload is not uncommon among school students either. The chapter encourages teachers to recognize the signs of information overload and not let students abandon their quest for understanding because of their limited brain capacities.

The Fourth Chapter, titled *Why Are Concepts Difficult?* explains the operation of working memory – an influential memory component. Everything that is perceived by any person is processed by the working memory, and this process may lead to understanding, which is desirable. However, when an abstract idea must be processed, the working memory can get overwhelmed, preventing understanding. The teaching force should be aware of it and help learners cope with working memory limitations: one method is to chunk information. The last part of the chapter expands on chunking and considers working memory in the case of children with special needs.

The emphasis in Chapter Five is placed on learners (who, according to the authors, should always be the centre of attention), and some of their possible characteristics are described. For example, they compare learners with high visual-spatial abilities to learners with more auditory-sequential skills. The authors tended to rely on clear evidence and “*simplicity that can lead to usefulness*” (Reid, N., & Ali, A. A., 2020, p. 91). One of the several important findings is the following: although we cannot do anything to improve working memory capacities, there is hope to improve one of its aspects: field independence. It helps avoid information overload in the working memory.

From Chapter 6, some key factors that have effects on learning are examined. Let us think of a teacher who has several bright ideas, is familiar with research evidence, and is willing to apply these in practice. Is it possible? Maybe, but with certain limitations. The authors take a look at the evolution of curricula and the problems arising around them. Essentially, the design of these should be in sync with student needs. Because of this, people who design curricula should have enough knowledge to understand students and develop a curriculum that is not solely beneficial for those who are committed and good at a subject. All learners have to be prepared to become full participants in wider society by emphasizing, for example, generic



skills as well, which can be done if the content coverage is reduced. Another important factor when deciding where to place focus during an educational process is attitude development, because certain attitudes, unlike memorized facts, tend to remain with people for a lifetime. The authors contrast the more commonly used “Curriculum in Context” with “Applications-Led Curriculum”. The latter would be more desirable for non-committed learners, too. Several other aspects of the curriculum are discussed in a concerned tone, and several issues are listed.

Assessment is a way of emphasizing what is important during a learning process. It should be in harmony with the curriculum and its objectives. This complex component of education, as well as its nature and principles, are unfolded in detail in Chapters 8–9. As assessment can either positively or negatively shape learning, consistent teachers, who consider reliability and validity when assessing their students, are required. In the eighth chapter, the authors state once again, that student needs are the most important when deciding what to assess. By contrasting different assessment types, we are provided with informative data; the authors offer suggestions for designing what to assess and list potential points that can be faulty.

Chapter Nine, titled “*Assessment Practicalities*”, establishes the practical context for the findings. It facilitates the process of producing quality assessments and indicates the significance of multiple measures. We are guided step by step in the construction of a quality examination paper. Specific examples of question types and the benefits and drawbacks of each are discussed, presenting an understandable overview of the entire system.

Chapters 10–13 direct readers from thinking skills through attitudes to practical teaching. Principles for skill development as well as types of thinking, including critical thinking, can be found in Chapter Ten.

Where does the concept of “attitude” originate from? What tools are used to “measure” it? One can gain the answers from Chapter 11. Furthermore, the terminology associated with attitude, ranging from knowledge to worldview, is discussed, and insightful (evidence-based) relations are demonstrated between them. These are useful for teachers to understand, since they may perceive how students behave, but that is not identical to the multi-variate term: attitude. Because attitude influences the learning process and even people’s contribution to society, the teaching force should know how to make an impact on this affective dimension of learning. Chapter 12 points out the issues that arise when attempting to measure attitudes.

Chapter 13, titled “*Practical Teaching*” takes a quick look at teaching approaches: teaching as telling can be useful if it is more than information transfer; teaching as teamwork may have a positive influence on attitudes and skills, but not exactly on understanding, and it does not facilitate the acquisition of knowledge on a topic. While teaching as doing might be enjoyable, understanding in students does not develop easily in these cases either, leading us to the conclusion that how the teaching method is employed contributes more to the development of understanding than the teaching method itself.

“*Modern effects on education*” is the main theme of Chapters 14–16., which examine concepts such as intelligence and high-stakes testing. In Chapter 15, we can learn about the elusive concept of quality education. There is no one universal way to become a “good teacher”. There are, however, approaches to defining, say, expert teachers’ characteristics. But how do we measure flexibility? And even if a person becomes a quality teacher, his or her quality teaching may not result in quality learning... This whole topic is yet another complex issue, which the authors have simplified for us to understand.



Chapter 16 focuses on the basic statistical methods that are helpful to the teaching process. This chapter provides practical examples and offers a helping hand with spreadsheets, as well.

Chapters 17–18 from the “*Moving education forward*” set unfold some thought-provoking educational myths. “More student-centered learning approaches will lead to greater knowledge acquisition and understanding” (Reid, N., & Ali, A. A., 2020, p. 417), for example. There is no evidence to support this claim, according to research. These chapters may cause readers to wonder, and as a result, critical thinking may occur. Although indirectly, readers’ attention is drawn to proper research.

The final chapter summarizes the five main themes and focuses on their application in teaching and learning. You should read the book “*If you want to know more...*”.

As stated in the book, research in the field of education is very often of poor quality. By presenting an astonishing amount of existing data and research on education with the use of understandable wording, and suggesting further research areas in topics, this book is a meaningful contemporary work. It facilitates people who are involved in school research and learning in general. The target audience, who can benefit the most from the publication, are people involved in education (teachers, teacher trainees, even students), and influential people who can somehow affect what is happening in the world of schools. I believe, however, that anyone who reads the book will benefit from it, since “*Education is simply the soul of a society as it passes from one generation to another*” (G. K. Chesterton).

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