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Effective scientific communication: reflections and tips

Comunicação científica efetiva: reflexões e dicas

LETTER TO THE EDITOR

Scientific research is a classic and well-known process of knowledge construction. Although it is the best source of evidence for the construction of new knowledge - provided that it complies with appropriate methodological principles - it is not the only source of knowledge.

The information we have about the world, our personal existence and social life are condensed into beliefs, usually based on common sense⁽¹⁾. In order to gauge our beliefs, it is relevant to have a well-defined definition of knowledge⁽¹⁾.

According to Plato, knowledge is a justified true belief. Although there is currently no single definition of knowledge, overly systematic logic is hegemonic in contemporary society. Practice embeds empirical knowledge, which can be useful even for future questions to be investigated, as well as for the change and/or improvement of clinical practice. The expertise and lived experiences of practitioners also constitute and provide evidence-based practice.

In this context, studies that share practices favorable to the development of new actions are relevant, and enable reflections on new possibilities to be developed and on what have been done so far; however, care is needed and should be incorporated when the work developed is publicized. To share ideas and replicate experiences, as well as studies, in diverse contexts, it is important that the planning, execution, and reporting of scientific experiments and studies comply with certain specific criteria, providing as much information as possible. It is necessary to provide reproducibility to the work, detailing the target public (sample studied), the objective investigated, the activities developed, and the protocols or instruments used. Every reader needs to understand, step by step, how the work was conducted. Ahead we present the essential items that should compose the planning of experience reports, integrative reviews of literature, and some quite brief epistemological reflections on the potential relevance of these types of records to a knowledge area.

When an experience report is presented, it is pertinent to consider that this sharing of experience, whether in the form of a case report or an extension project, should contain some type of innovation, whether scientific, technological, social, or even on how to develop some activity (on the “doing” of it). In order for this type of report to be replicated in other scenarios and its impact be verified, or some type of intervention outcome be objectively assessed, it is essential that it be clearly described and explained: target audience, project goals or developed activity, detailed description of all the elements involved in the activities developed (so that it can be replicated in other scenarios, with other readers, if

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applicable), expected and achieved results (related to the goals and activities developed), and conclusions (taken from the results of the reported actions and supported by the methodologies employed).

Integrative literature reviews play their role in providing an overview of the state-of-the-art related to a theme; however, in order to effectively evaluate what is published on the subject of interest, it is imperative that the databases relevant to the object of interest be appropriately chosen (for instance, for topics of interest associated with mental health, it is necessary to include PsycINFO; PubMed and CINAHAL should always be included in studies addressing health, because they currently present the largest contingents of publications in the area, etc.). Furthermore, the time demanded to conduct a literature review should be considered, and it is essential to have a clearly formulated problem and research question so that they can be answered from this literature review, if this is the path of choice, considering that the expenditure of time on this must be based on scientific or social justification, from the knowledge gap that it intends to fill. In this case, the planning of a review should identify the most appropriate keywords and their combinations for the survey of target studies and describe this information when reporting the review, so that it can be replicated. It is worth emphasizing that, if there is a systematic review (with or without meta-analysis) that is adequate and up-to-date, there is no reason for an integrative literature review. Therefore, prior to beginning an integrative literature review, it is always necessary to verify whether a systematic review has been conducted and what is already known about the subject. The theoretical framework must be constructed from a wide search, with exhaustive reading and caution so that good studies are not omitted; in addition, it should contain the main authors of the area, updated references, good methodological studies, and what is already known of most importance on the theme.

Currently, effective scientific communication is paramount in the training of future professionals, and it is determining in the quality of practice of the trained professional. Scientific research is not a specific niche of the Academia; it should be part of the professional routine that can support its practice and importance, both to its patients and to other professionals, based on scientific evidence. For an adequate performance of the modern clinical practitioners, it is fundamental to know how to analyze the quality of existing studies in the literature, even if they are not researchers. One must be critical and understand what the clinically relevant findings are. It is extremely important that speech-language pathologists are trained at all levels so that they are able to interpret evidence and use their technical and reflexive ability to apply this information in their clinical practice routine. It is also important to note the need that the globalized world imposes on the learning of foreign languages, knowledge about other cultures, and awareness of new technologies and information available. Constant updating is mandatory at any point of a professional's career.

Despite the continental dimensions of our country, which faces ups and downs for the scientific development of an area of knowledge that still seeks consolidation, there are ways to reduce inequalities and tackle the barriers related to inequality of opportunities, namely, use of networks of collaboration between institutions and federal, state, private and community research groups; free online contact and virtual meeting tools (a feature that is already widely used by research groups in international collaborations, lowering costs and being more eco-sustainable); free online translation resources; open access to articles; resources in university libraries; free courses, etc.

Effective scientific communication is an obligatoriness of contemporary life; from it, progress can be made in other fields including the health area, enabling science to further offer the best and most appropriate of its knowledge in various scenarios. Nevertheless, it is relevant to enable the creation of adequate bases for planning and formulating specific health policies.

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Author contributions

BNGG and RSR designed, discussed, analyzed, wrote, and reviewed the final version of this letter to the editor.