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# PUBLICATION IN SCIENTIFIC JOURNALS: ETHICS, QUALITY AND RESEARCH EVALUATION

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**ABSTRACT**

*The low quality of articles submitted to scientific journals and the artifices used for publishing – resulting from an academic evaluation policy based on the number of published papers, weighted by the journal's score – is a growing concern among editors and researchers. This article discusses the notion of 'productivism' and the causal relation established between the pressure to publish and the paper quality, arguing that the problem, most of the times, is directly related to the very scientific production process. Issues regarding evaluation and the ethical principles involved in preparing and submitting papers are also discussed. It is suggested reading the documents approved on the 2nd World Conference on Research Integrity, which took place in Singapore, in 2010 – published here – which define international standards for journal editors and authors, and play an important role in researchers' training.*

SCIENTIFIC ARTICLES • ETHICS • QUALITY • EVALUATION

**THIS TEXT PROVIDES REFLECTIONS** on issues involving the publication of articles in scientific journals, especially with regards to education and related areas in the humanities, which originated from the experience in the *Cadernos de Pesquisa* Editorial Board. These problems led to the decision to translate and publish, in this issue,[1] the international standards for journal editors and authors defined on the 2nd World Conference on Research Integrity, which took place in Singapore, in 2010, and was publicized by the Committee on Publication Ethics – Cope.

A significant part of the editorial work involves issues relating to evaluation, publication and research integrity and quality. Therefore, it is important to confront those issues with publication standards, understood as positive normalization, which defines the necessary acknowledgment of the presence of alterity and considers that all human actions congregate the ethical and political dimensions (SEVERINO, 2014).

In discussions with editors and researchers, the complaint about the low quality of papers submitted and about the crafty artifices to get published is frequent. The explanation for such fact is the existence of an evaluation policy attached to the measurement of the number of published articles, weighted by the journal ranks, which encourages inexperienced and opportunistic professionals to seek for results, which ends up overwhelming the work of editorial boards, hindering, above all, the advancement in the scientific knowledge production. Reviewers,

1 See Espaço Plural, p. 204.

quite often, use their appraisals as opportunities to vent their opinions, as demonstrated by the following: "the serious problems identified, unfortunately, do not constitute a limitation seen in this article only, but rather of our entire 'sad' national scientific production, which has been privileging 'productivism' and has operated with a poor and rushed understanding of the meaning of what is considered 'scientific'".

Several journals have published the discussion regarding problems associated to 'productivism' and to research conduct, both in editorials and in articles. In the latter, it is possible to observe different understandings of the word 'productivism', considered in relation to scientific production evaluation policies.

Kuenzer and Moraes (2005) take the expression as a consequence of quantitative measuring: "a true 'productivist' surge in which publishing is what counts, whether it is a reheated version of a product, or several versions of a new product with a few cosmetic changes. Quantity becomes the goal". Thus, the focus lies on the authors' initiatives as a response to such policies, as it may also be observed in the definition provided by Alcadipani (2011):

> What we call 'productivism' is an exacerbated emphasis on the production of a great amount of something which lacks substance, the focus on producing as much as possible from a "canned" thing, with little content, and the consequent valuing of quantity as if it were quality.

From another standpoint, productivism has been treated as the evaluation itself, as defined by Godoi and Xavier (2012):

> The definition itself is dialectical, as it comprises criticism in itself: the evaluation format focusing on pure and simple quantity of production/publications, usually hardly ever read or which do not have any scientific relevance and which serves as basic parameters for the most varied form of advancement in the academic carrier.

Following this inflection, 'productivism' is treated as the manifestation of the articulation between market mechanisms and the academic intellectual world (MACHADO; BIANCHETTI, 2011), an "ideology" which "subsumes the value of knowledge use to its alleged exchange value" (TREIN; RODRIGUES, 2011, p. 780).

Vilaça and Palma (2013, p. 476) list several authors who corroborate the idea that, nowadays, a publication market has been formed, attached to an academic-scientific market, which transforms knowledge in a commodity.

One may not deny that the high subscription prices defined by scientific journal commercial publishers interfere deeply in the processes of production and access to knowledge. The sales of packages to governments drain large sums of public resources. This may be analyzed and criticized, but it is also necessary to prepare and strengthen political alternatives, towards the democratization of knowledge, such as the editorial movement associated to open access. Although the eradication of the academic commerce, for research, is a hard goal to reach, as producing and publishing journals implies costs, the actions involving the circulation of knowledge deserve to be in the agenda of non-profit journals.

However, the characterization of 'productivism' as a modern expression of the 'mercantilization' of science, may incur the risk of disregarding the history of science as a constitutive element in the history of capitalist society. This relation is largely analyzed by several authors, whether in a critical sense or not. Examples of awareness and adhesion to these links may be found in different historical moments. In a metaphorical sense, a speech given by the Baron of Rio Branco, during the opening of the 3rd Latin-American Scientific Conference, Rio de Janeiro, 1905, characterized the establishment of an "intellectual commerce" as the major contribution provided by scientists' meetings. Although the words used may be attributed to the vernacular at the time, they still carry the weight of the impact of productive processes. It is important to emphasize that the minister endeavored to ensure that international relations did not affect coffee export commerce. However, at times, the reference was explicit, as seen in a speech given by Ataulpho de Paiva, in 1913, in which he stated that "the capitalist employer internationalism and scientific internationalism mingle, completing one another" (KUHLMANN JR., 2010, p. 192-193).

Economy and the market have always been present in knowledge production, as well as in the learning and research institutions. Scientific autonomy takes place within limits, as it is not free of economic factors and of the general social order (WILLIAMS, 2000). In this scenario, it is possible to develop analyses, which provide critical elements for understanding such relations in the current circumstances, with their specificities.

From the standpoint of scientific journals, it is understood that these problems deserve to be discussed in a broad scenario, seeking to address the different dimensions indicated, so that the critical analysis is not biased. This would be important to grant more substance to the questions which, paradoxically, are raised in the articles published and are signaled in qualified journals.

The eagerness to object, at times results in drawing completely unfounded arguments, such as those which equal the pressure to publish

to the indispensable need to publish research results. An example of this type of fallacy occurs with the comparison between publishing articles at the graduate school system and the development of theories by great thinkers and scientists:

> Great theorists and researchers, from different areas, which are currently considered classics, have also developed their research during years, deepening and checking their findings. Such is the case of Karl Marx (1818-1883), who worked for forty years in developing his main work, entitled Capital. [...] For Einstein, things were not any different: in 1905, he published his Theory of Special Relativity, and only ten years later was he able to publish the Theory of General Relativity, a broader version of the previous theory, largely known nowadays. Based on the 'productivist' logic, they would all be candidates to perish in anonymity. (TULESKI, 2012, p.3)

Great works and theories are not isolated products, which would have fructified out of the detachment of geniuses from social life, and from the academic debate and environment. If Marx labored during forty years to write his main work, along that period, he also wrote many others, both in the philosophical and scientific field, and in the political field, with his articles for the *Rhenish Gazette*. All of these writings worked as the yeast for his "main work". Einstein would not have been productive or, based on the current rules, would he be condemned to remain in anonymity? A simple reference to the *Einstein Papers Project* enables us to check, in volume 11 of the *Collected Papers of Albert Einstein*, 46 pages referencing his published scientific bibliography, especially articles in journals, between 1901 and 1921 only (KOX et al., 2009, p.45-91). Several other intellectuals and scientists in the past, from areas of knowledge, in Brazil and abroad, also have an extensive published bibliography.

The scientific production process implies the need for publication. Rogerio Meneghini (2012), the scientific coordinator for the SciELO (Scientific Electronic Library Online) Program, indicates a science production cycle, involving scientists and their projects, infrastructure and the development of research, the results and the discussion with peers (informally or in conferences), culminating in international and national publications. For him, science depends on good publications:

> The cyclic representation of the fabrication of science is appropriate for another important reason: it demonstrates that publication is not the final stop in the scientific activity, as it is sometimes characterized. It re-feeds the cycle, with new knowledge and proposals. Therefore, not publishing, for any reason, means

> breaking a link in the process and, consequently, interrupting the advancement in the research area in which the cycle is inserted. (MENEGHINI, 2012)

As the author points out, the main goal of publications in specialized journals would be to problematize and to produce scientific knowledge. This gives rise to the existence of journals, whose articles are more or less frequently read and quoted.

This issue also involves its share of fallacies. In order to criticize "scientometrics" and "Qualisfication"[2], Vilaça and Palma (2013, p.475) identify the need to publish and be publicized, i.e., with the corollary of scientific production and its disclosure to society, as a means of rendering of accounts: "if the main issue is making access as easy as possible, it could be done on a website or large circulation printed media, and using language which would reach non-scientists, […] But specialized journals are the most prestigious means". Therefore, "the language used, among other factors, makes the publicizing mean relatively ineffective, if you consider science democratization".

However, publishing does not mean simply publicizing research results, which refers to a stage succeeding the obtainment and validation of results, when research contributions should reach large circulation means. The primary contribution from scientific articles returns directly to the qualification of researchers and in the development of research, and not only in publicizing them to the public at large.

The democratization of science and the social implications of the knowledge produces are important issues, which may not be set aside. Any obstacles and need for greater investment associated to this are not caused by the existence of journals. Obviously, at times, political injunctions and other hidden intentions take place, as the authors propose: "it is necessary to know what the articles actually intend to publicize, as it may only be the author's, the institution's or the journal's names" (VILAÇA; PALMA, 2013, p. 475). This issue, which does not result directly from the reasons identified, does have an ethical implication, involving journals and authors. In this sense, the quick adherence to what we may call 'publicationism', rather than 'productivism', could also be seen as a renewed form of a fight for power and for accommodation to quickened knowledge, which do not result from any given evaluation policy, but that have always been present in the academic environment.

Kuenzer and Moraes had already proposed, in 2005, important issues as they consider the dynamics applied to Brazilian graduate schools, starting at the biennium 1996/1997, which resulted in an inflection in the sense of the preponderance of research over teaching. Although the study emphasizes the existence of positive implications, the authors have pointed out that this has also resulted in "the 'quantitativist' exacerbation

2 This expression is related to qualification and the journal´s Brazilian evaluation, named "Qualis".

which, following the example of other econometric models, only evaluates that which may be measured" (KUENZER; MORAES, 2005). The authors in addition highlighted the difficulties in evaluating the quality of such production, which has just become worse, as the access to graduate studies has been growing since then,

Some areas, submitting to the productivist order, have accepted, as thesis or dissertations, a set of submitted to publication or published articles on a single investigation object, which inverts and subverts the scientific production cycle, as it presupposes research and its result as pre-requisite for communication.

In the year 2013, this editor participated in the meeting for evaluating books in the Education area, held by Capes – Coordination for the Improvement of Higher-Education Personnel. Based on this experience, some issues may be raised.

Above all, the idea of an abstract organization, named Capes, to judge us and impose strict standards on us, clashes with the experience of sharing the examination of the area's production with colleagues from different institutions, specializations, and theoretical and methodological options. It would be quite naïve to postulate that the committees would directly represent the motto "We are Capes", as it is clear that the work is subject to external guidelines which limit our action in many cases. The environment in the committee is that of comradery among peers, predisposed to evaluate the products in a democratic environment, with respect to differences. Subjectivities are controlled, somehow, by teamwork and by proposing the evaluation indicators to be approved by the entire group. How is it possible that 40 people evaluate 1600 titles in one week? Firstly, by working full time; secondly, by adopting the criteria defined by specialists in the area, which identify the books' component elements and indicate greater or lesser coherence, consistency and scope, among others. However, the content of each chapter or each complete text is not evaluated, as it is impossible to read the entire and extensive volume of works.

In the processes of evaluating graduate study programs, it is impossible to access the inside of intellectual production, and the score quantifies indicators, which provide an approximate measure of their quality. Therefore, the researcher and its graduate program are evaluated by the publication in journals and books, which are also classified to as to generate indices to define the score for such production. In this process, what is actually valued is the fact that the text is published in a journal level A or B, or in a book L4 or L2, rather than the text's intrinsic quality. This issue causes discomfort. However, how is it possible to evaluate such a large volume of publications if not by quantifying and stratifying it?

Authors, as well as journals and books are classified and hierarchically organized in accordance with formal criteria, which would enable to check the quality of what is published there in relation to the evaluating goals, directly referring to the research results or to the theoretical and methodological production.

However, although the journal's impact factor, the indexers, the organic nature of the chapters in a collection, or a publisher whose editorial board, may indicate probable quality, at times classifications involve mistakes and cause injustice. This takes place in situations in which a good article or chapter is published in a journal or book with a lower score. Proposals such as the development of a national quotation index, for the areas in which circulation is predominantly national (ALMEIDA, 2010), could result in defining more careful assessments, which would combine measures regarding the means, the researchers and their products.

Injustice in classification is even bitterer for the situations in which the classification criteria lead to approving high grades for articles and book whose quality is poor, or that involve ethical problems.

## JOURNALS AND PRODUCTION QUALITY

Another evaluation dimension which may, at times, go unnoticed, refers to the journals' article selection or rejection processes. This represents checking the internal quality of texts submitted, which differs from the quantitative evaluation performed by the agencies.

The text on international standards for editors, aiming at the responsible publication of research, which we publish in this issue of the *Cadernos de Pesquisa*, starts by appointing editors as the guardians and keepers of scientific research results. This is an important question which deserves to be largely debated among editors: what is the quality of articles we have accepted and rejected?

If editors are responsible for all that is published, this causes the most different problems to scientific journals' editorial boards. Making a just and impartial decision is something to be done within limits defined, for instance, by a journal's editorial policy. This means that a good text may be rejected for not fit in within the limits. However, it is important to ensure diversity in articles. This means that, an editor may disagree with a given theoretical or methodological option, and still publish a text whose quality criteria have been checked. Otherwise, texts could be discriminated against based on their adherence to distinct positions. Enabling the debate between different conceptions is also a healthy perspective. Therefore, the responsibility over the published articles should not be seen as the editor's agreement with the views expressed in each of the articles. These processes need to be guided by principles,

policies and processes capable of promoting research integrity and of obtaining the acknowledgment of the scientific community.

Once the formal requirements have been met by the submitted text, the first editorial decision to be made is whether to submit it to evaluation or not. There are problems involved in the entire process, from choosing the reviewer to issuing the review, which may be extended for different reasons.

In addition, the content and indication of reviews may not be accepted blindingly. The expectation of a detailed evaluation is quite often frustrated. Some reviews are rushed and accept the texts but do not perceive methodological inconsistencies. Some reviewers transfer the decision to the editors. Other reviewers antagonize the article with no consistent arguments, or even cross ethical limits by using inappropriate language. On the other hand, some reviews are detailed, which provide elements for a safe decision.

Therefore, the Editorial Board shall examine reviews and articles to weight the decision and the actions to be taken. These are problems that shall be taken into account by reviewers, as this task, which requires substantial time, impacts on the decision-making process, on the time between submittal and response, and on the quality of publications;

Responsible publication has several implications regarding the submitted articles and their authors.

Szklo (2006) mentions studies that demonstrated that articles rejected had a high frequency of submittal to other journals, with no revisions made. The editorial board of the *Cadernos de Pesquisa* has already identified this type of procedure. Of course, authors may disagree with reviews, but if there are founded arguments provided, the disregard for the problems pointed out suggests the authors' conformity and lack of concern with the diligence required with research activities and its communication. In addition, it is also necessary to wonder why an article rejected by one journal is accepted by another. Why has one review identified problems, and another has not?

A frequent problem is that of articles integrating dossiers which, in their compositions, present irregularities as to the quality of articles submitted. In *Cadernos de Pesquisa*, articles submitted to the Topics in Debate section are reviewed by reviewers and by the Editorial Board, and, in some situations, some of the articles are not accepted or the authors are encouraged to reformulate their papers for publication.

If communication with authors, on an individual basis, requires care and objectivity to indicate the rejection or revision of articles, the situation is even more delicate when dealing with coordinators, as they act as intermediaries to receive the decisions. In addition, the journal may be faced with the possibility of not publishing a set of articles, which may interfere in the publication of an issue being prepared, or

with timely publications. However, this shall not constitute a reason for loosening the criteria.

In general, two types of dossier have been published by journals: those in which the coordinator is invited or proposes the publication, and those in which the journal calls for papers referring to a selected topic. In some cases, the production of dossiers or collections does not involve the required care, when authors are invited and given short deadlines, of two or three months, to submit the articles. Thus, except for atypical situations, the result is invariably a rushed analysis, which is not capable of representing the research results satisfactorily.

It is not uncommon to find chapters that are practically identical to those published before, with a few cosmetic changes, with the addition of two or three different paragraphs. As stated by Kuenzer and Moraes (2005):

> [...] legitimate forms of productions, such as co-authorship and the organization of collections – in countless cases, products of solid integrated research –, have become banal in some areas of knowledge, among which, Education. In the case of collections, it is not infrequent the tendency to 'essayism', which is far from what is required for a consolidated and organic production about the objects of investigation.

The goal here is not the production of knowledge or the discussion of theoretical and methodological issues, but the joint action of groups, where texts are gathered in order to obtain points, in which the organic nature barely surpasses the work structure, and is dissipated as the reading goes deeper into the contents developed.

Co-authorships pose different problems, considering the knowledge areas. In some of them, such as the health sciences, debates reacted to the practice of sharing articles among many co-authors, bringing together researchers and students who quoted one another, as means of multiplying the production. Rego (2010) quotes the criteria defined by the International Committee of Medical Journal Editors – ICMJE–, for acknowledging authorship, which require effective contribution to the research, participation in writing or reviewing the article, and in the approval of the version submitted:

> Some research group leaders question the relevance of these criteria, arguing that a research is done by an entire group, and that the article which results from this collective work needs to comprise all those involved in it. This is actually a fallacy. There shall be a strict differentiation between the work associated to data collection and that related to data analysis and systematization, and their

> presentation in an organized and scientifically appropriate manner. All those who participated in the research, but did not participate in developing the article itself are not authors, but collaborators who shall receive the acknowledgment at the end of the article. The assignment of authorship to those who do not meet these three requirements is not acceptable and shall be understood as academic fraud, whether it involves graduate students, service or laboratory heads, or even tenured professors (REGO, 2010)

In the education area, co-authorship problems are more easily noticeable in conference papers (KUENZER; MORAES, 2005), but the submittal of articles involving professors and their students has become frequent. This type of production is valid and desirable, and is even an important resource, in many cases, when careful editing and revising, by the advisor, is conducted as an educational activity which contributes to careful explanations, data treatment and interpretation, thus consolidating the advising process. Articles submitted by students themselves are more likely to be rejected or objected to, due to their inexperience in writing articles. Ethical issues take place when it is evident that names have been added to the work without the effective participation, which expose professors who sign poorly written papers.

In some situations, the 'publicationist' behavior may be credited to the naïveté or inertia of procedures originated in recent times, in which dissemination of the production was characterized by amateurism. The understanding of limits resulting from a research is not quite clear. Would the fact that a study has been publicized by an institution, or that a dissertation or thesis is available at graduate study programs' web pages constitute an impediment to the production of articles? It is difficult to discern, for instance, between text formats for circulation in different means, such as a foreign publication and a national one; or yet, between the communication in a conference and its publication in a journal. Not long ago, conferences publicized the papers presented in restrict circulation means, such as CD-ROMs, or photocopies of the works. In these circumstances, publishing a text in a journal was endowed with a different nature than the one we have nowadays, when conference papers are available on the internet, which renders the originality rule vulnerable. For journals, this poses new restrictions, at the same time as it provides authors with the possibility to deepen and incorporate reflections and debates to the paper presented during the event, so that they may submit a more consistent material for publication.

For Trein and Rodrigues (2011),

> [...] nowadays the scientific community questions itself on how to resist the fraud resulting, not from the lack of character of some

> researchers, but from a growing alienation process in relation to the effective social value of the work produced. Pressure for more productivity, competition for higher budgets, reduction of time for maturity of results, stop being a decision that affects each individual in particular, with freedom for action, to become collective constraint mechanisms by apparently objective and neutral instruments, as are the evaluation and ranking instruments. (p.783)

While agencies are blamed, the "weakness" of colleagues who succumb to the disordered production game, in which the permission to commit fraud is granted, as a natural consequence of pressure, is often forgiven. However, bad faith would be the only explanation for certain situations. For instance, when we are faced with texts submitted to more than one journal simultaneously. As if in a lottery, authors play with the evaluation rhythm, overwhelm editorial boards, and run the risk of having their texts submitted to the same reviewer more than once. Even more serious are the instances in which an article is accepted for publication, time and work are invested in revising and editing it, and the author is advised, and by chance we find out that the article has already been published as a book chapter.

Bad faith by the proliferation of articles is associated to self-plagiarism and plagiarism issues, the latter being a very common type of fraud in the production of academic papers, although it is also present in journals (SPINAK, 2014a, 2014b). A hard to detect form of plagiarism is, for instance, not quoting a long text from a different work, but appropriating an expression or an innovative contribution regarding a not well known topic, treating it as if it were the author's idea or a widely familiar datum. Sometimes the first author is quoted in one text, but later, on new produced texts, the reference is self-attributed. Omission leads to erasing and distorting the knowledge production trajectory, in order to grant prestige.

Research many times enables unfolding results, obviously, without meaning that the same information is being replicated: in one article, methodological aspects are discussed, and in others, different themes and data are interpreted:

It is necessary to infuse a more meaningful sense into the need to publish, associating it to the collective academic production process. It would not be too difficult to interrupt an unreflective dynamic, which is submitted to the idea of "publish or perish", nor to say no to invitations, which could not be met without loss of a rigorous and consistent article preparation. Why multiply bibliographical products if this is not exactly what the agencies want?

At CNPq, in the Education Area Committee, the criteria adopted included assigning scores to researchers based on, at most, five of their

highest-qualified productions. Capes' Area Committee indicates an average of two qualified productions for each year for PhD professors, and one qualified production a year for Master's professors, which are reasonable numbers, considering the dynamics of the advising activity.

However, the evaluation of graduate programs includes the weighted average of qualified publications per professor, which is still an indicator which encourages indiscriminate production. The specification of a maximum limit to measure the production per professor would be desirable, and other criteria could be used to determine quality and define the best grades, as the high number of products may involve deviations, which do not reveal an effective knowledge production.

As stated by Vasconcelos (2014), it is time to adopt "concrete – and vibrant – actions to include scientific integrity as one of the topics in educational culture of undergraduate and graduate students". The documents which we present in this issue organize the ethical principles for publications and are an important tool in the education of researchers. That is why we decided to translate them, in order to make them more accessible. The explanation of these guidelines also authorizes us, at *Cadernos de Pesquisa*, from this point on, to adopt the applicable actions in case of violations of ethical principles, similar to those described.[3] In case the article has been published by our journal, the electronic version will be retracted, and the reasons for retraction will be listed.[4] In case of concerns related to the existence of more severe infractions, and the explanations offered by the authors are not satisfactory, their institutions, and funding agencies will be advised and encouraged to adopt the procedures they deem convenient. We hereby invite other journals in the area to discuss joint actions.

To conclude, we raise another issue, which we consider highly relevant to the education area agenda. Going back to the review mentioned in the beginning of this text, it would be appropriate to question the causal relation between the pressure to publish and the low quality of the articles resulting from it. Although the artifices used for publishing are recurrent in the articles submitted, most times the rejection of articles is directly associated to the poor quality of the very scientific production process in which "the poor and rushed reading of what is scientific" is done, as stated in the review. As an extreme example, we may quote studies which suggest an analogy with laboratory tests, in which the drop of a solid object is timed, in order to measure the acceleration of gravity. The formula for conducting the research, at times, uses a theoretical frame so that, after that, only data which confirm it are selected. Fashionable jargon is used as self-explanatory categories.

Although excellent research may also be encountered, the unbalance is flagrant. It is necessary to advance the discussion on what

3
See mainly item 5.2 of the editors' directives, page 212.

4
See the Guide for publication of retraction, expression of concern and errata of articles published by Scielo. Available at: <http://www.scielo.org/php/level.php?lang=pt&component=56&item=53>. acessed in: dec. 2013.

has been researched and how, on the investigation problems and the relevance and consistency of methods to advance them. If editors play an important role in checking quality, other bodies, which precede this moment in the scientific production cycle, could also perform their functions in a stricter manner, involving project catalyst research programs, the advising process and the examination committees. However, this is a different discussion. The *Cadernos de Pesquisa* is willing to take these debates further.

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