PEER REVIEW PROCESS: WHY ARE MANUSCRIPTS SUBMITTED TO SCIENTIFIC JOURNALS REJECTED?

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Resumo: Quando os pesquisadores enviam os resultados de suas investigações para publicação, tem sua produção intelectual avaliada pelos membros da comunidade científica. O processo, denominado sistema de arbitragem, de avaliação de originais, de avaliação pelos pares, *referee system* ou *peer review*, consiste no uso de árbitros para assessorar a avaliação dos manuscritos submetidos para publicação. Quando submetido a um processo de análise, as possibilidades de publicação do manuscrito são três: aprovado; aceito sujeito a correções ou rejeitado, e pode apresentar um caráter pedagógico ou punitivo. Este estudo analisa 191 pareceres referentes a manuscritos enviados a um periódico no período de 1997 até 2007, com a finalidade de conhecer os motivos que levaram os avaliadores à sua rejeição para publicação**.**

Palavras-Chave: Revisão pelos pares. Comunicação e divulgação científicas. Manuscritos.

Abstract: When researchers send the results of their research for publication, their intellectual production is assessed by members of the scientific community. This process, called referee system or peer review, consists in the use of referees to help evaluate the manuscripts submitted for publication. When the manuscript is submitted to a review process, the chances of publication are three: approved, accepted subject to correction, or rejected. This process may provide a teaching or a punitive character. This study examines 191 opinions relating to manuscripts submitted to a journal in the period 1997-2007 with the purpose of knowing the reasons which led the evaluators to reject publication.

Keywords: Peer review. Scientific communication and dissemination. Manuscripts.

1 INTRODUCTION

In scientific circles, the reputation of researchers is related to their scientific output. They are judged by articles published, projects developed, conference papers, participation in

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research groups and other activities that make their research known. However, greater visibility to the research is given in articles published in journals of national and international recognition, which are classified according to certain criteria, in a list of the most significant publications in various areas of knowledge. It is important for researchers to ensure their output is published in journals of high impact, so that it is in fact disseminated. These journals seek to maintain a recognized standard of scientific quality and, to this end, use the system called peer review. (ZIMAN, 1981).

When a manuscript is submitted to a review process for a journal, there are three possible outcomes for this assessment: accepted, accepted with modifications, or rejected.

The most discussed topic in this case refers to the role of referees, who may pose a risk if there is censorship of new ideas or other form of prejudice.

The careful preparation of an opinion of a manuscript, performed by peers, is an important source of learning for the authors, as writing requires technique, experience, maturity, and constant comings and goings in order to review writings, check for errors, and correct deficiencies. Scientific language is believed to take some time to learn and it should not be paraphrased with a view to an easier understanding. There is learning throughout life for the researcher to understand, speak and write in that language.

The subject of this paper is the opinions of the evaluators of the journal Movimento, published by the School of Physical Education of UFRGS in 1994. It specializes in Physical Education and presents the interface with philosophical, sociological and human resources aspects, with regular quarterly intervals and a high occurrence of manuscripts for review. Its editors made the analysis of opinions possible, and thus the vehicle was chosen for the investigation of the matter. In this research, we analyzed 191 opinions in a period of 11 years, from 1997 to 2007, by its evaluators at the stage prior to publishing the journal, which occurred in late 2007.

Based on the reading of the opinions, we defined seven main groups of criteria: ethics, research tools, originality, writing, standardization, theoretical depth, and methodology. We present a table listing 72 reasons that lead to rejection of manuscripts in descending order of frequency mentioned by the evaluators.

The research project number 2007911 was approved by the Ethics Committee of the Federal University of Rio Grande do Sul on October 2, 2008.

2 THEORETICAL FOUNDATION

Evaluation of scientific literature by members of a community of reference is known as referee system, for evaluation of manuscripts or peer review, and involves the use of referees to help analyze the manuscripts submitted for publication. The peer review system is a critical evaluation developed by experts who are not part of the editorial team, reviewing manuscripts submitted to journals. They are responsible for expressing opinions and adding their comments to the manuscript submitted, and thus helping in the decision of the publishers concerning the publication or not (STUMPF, 2005).

The author's work begins well before: when thinking of writing a manuscript, the author's first step will probably be to seek to know the instructions for authors, rules of submission for publication, scope and completeness of the contents of various periodicals, and choose the one that most represents his/her area of interest. "If the main purpose of publishing is to disseminate scientific advances to other researchers in the same area of interest, there is nothing better than knowing where the peers publish papers" (CASTRO, 2006, p. 128). By carefully analyzing the scope, the author runs the risk of having his/her manuscript rejected for one reason prior to analysis by virtue of his/her text.

Other factors are important to be considered by the author. Serra, Ferreira and Fiates (2008) emphasize that one should be careful to ensure the article contains the essentials that lead to an assessment and not a rejection. It is important to take criticism and, based on it, qualify the work produced. The author should verify the existence of an evaluation by merit, the peer review. Publishing papers in reputable academic journals has become more difficult: the time between receipt, evaluation and publication extends and rejection rates in many journals comprise more than 90% of articles received. However, according to Meadows (1999), the refusal of articles is common and necessary, since a rejected article may be submitted to different journals thus allowing for a process of purification and improvement. This idea emphasizes the need to examine the peer review system in all its aspects.

Davyt and Elder (2000) present peer review as a practice inherent in the social science institution and do not envision changes in this practice for the future. Concordantly, Marziale (2001), asserts that, despite its limitations, peer review seems to be far from being replaced, occupying a central role in the publishing process of journals, and Pires Júnior (2001) states that "[…] even in the face of major problems, we still have not found another system that may replace the referee system of scientific production, conducted through peer review", and Szklo (2006) remarks that peer review has questionable validity and less than optimal reliability, but is likely to remain the primary process of selecting articles for publication.

According to Castiel and Sanz-Valero (2007) there has been an impressive growth and expansion of scientific and academic research with intensive publication. Brazil is a country that presented greater dynamism among other countries, in the period 1991-2003. These authors question the real value of this content for knowledge building and name the phenomenon "proliferation of scientific papers". Since researchers are in constant need of insertion in the scientific community and publishing papers is one of the consequences of this practice, they claim that "publicationism" is a current requirement for career progression and recognition among peers.

> We need to produce articles that generate quotes, i.e., that are published have vitality to be present in other publications, [however] it is necessary to point out aspects relating to the difficulties in accepting the work in the most prestigious journals in which the action or narrower filters is required in the selection of articles (CASTIEL; SANZ-VALERO, 2007, p. 3047).

In view of the publisher, we should recognize that, without doubt, the publishing of scientific journals is a complex task that involves technical, ethical and financial aspects. According to Hames (2007, p. 3), "[…] publishers are responsible for ensuring the quality of their journals and ensuring that the content published is ethical, accurate and relevant to its readers." Ethical aspects, in particular, have worried many segments of the scientific community:

> Publishers of scientific journals need to be aware of the diffusion mechanisms of inappropriate conduct in the publication process. [...] Fabrication, falsification, duplication, ghost authorship, granted authorship, lack of ethics in the approval of manuscripts, non-disclosure of such facts, "salami" publication, conflicts of interest, self-citation, duplicate submission and publication, and plagiarism are common problems. Editorial misconduct includes failure to follow due process, delays in decisions and communication with authors, flaws in the review, and confusion between the content of a journal and its promotional and advertising potential. [...] Publishers are in a privileged position to promote appropriate practices, adopting ethical, clear guidelines about procedures. (GOLLOGLY; MOMEN, 2006, p.24)

Cruz (2006) highlights two major responsibilities of a scientific journal regarding peer review:

> Selecting professionals with expertise in the area, explaining the editorial policy for the reviewer (courtesy to the author, punctuality on the opinion, improvement of the manuscript, secrecy, etc.). [...] Providing orientation on the type of analysis that matters to the journal (significance of the problem/research question, the unique contribution of the research, validity of the research, ethical aspects of the research, reporting, quality of the discussion of results, consistency of the findings and suggestions, as well as impressions on the manuscript regarding plagiarism, repeated publication, etc.)

Referees assume that authors are telling the truth and believe in their data, otherwise the peer review process would be impossible. Some researchers favor the assessment process

precisely because it enables them to discover these scams, or the errors may be discovered during the evaluation (KNOBEL, 2003).

Bornmann, Nast and Daniel (2008) conducted a quantitative analysis of 46 studies on the criteria for the evaluation of manuscripts and their reasons for accepting or rejecting them. The main purpose was to determine whether the referees take into account ethical issues and detect plagiarisms in manuscripts. They found that, of a total of 572 criteria and reasons in the 46 studies, divided into nine main areas, none of the criteria or reasons given in the nine areas relate to possible falsification or fabrication of data. In a second step, the study asked the publishers and reviewers to assess the meaning of each aspect analyzed as high or low. The ethical criterion and plagiarism are not the most quoted.

Castro (2006) lists some qualities in the peer review system: detection of methodological and design errors, omissions and misstatements; promotion of ethical research standards; improvement of the quality of reported data; enhancement of readability and improvement of the accuracy of conclusions and statements. However, they have been shown to be ineffective in identifying errors in statistical analysis, not detecting fraud and, despite efforts in the non-identification of authors, the evaluators of some journals are not prevented from knowing their identity, while most journals will not reveal the identity of the referees to the authors.

Knobel (2003) points out issues that fuel the debate: the very system of incentives to research and competitiveness drives the rapid publication in considerable amounts. What is the limit? In addition to the inherent issues on competitiveness and conflicts of interest, many believe, because it is an obligation without an immediate financial or curriculum-based return, most reviewers read the manuscripts superficially, without worrying about the veracity of information contained therein, and without checking previous publications of the authors of the article submitted for publication.

Alvarenga (2003) analyzed 2,382 citations from 206 articles of the Revista Brasileira de Estudos Pedagógicos (RBEP) from 1944 to 1974, relating to the institutionalization of research in Brazil, to see if there was any system of exclusion of authors in the process of submitting articles for publication in the journal. She concluded on the existence of clear evidence that the journal has been loyal to the ideology of the state and its process has operated based on a system of non-publication of articles from authors who are not in tune with the thinking state represented by the Ministry of Education, publisher of the journal. The historical period analyzed by the author corresponds to periods of government of the Estado Novo, Dutra, Kubitschek, Quadros-Goulart, and the military governments. Alvarenga (2003,

p. 80) believes that studies of the behavior of the literature similar to what we do now and that she has developed may cause "[...] the appearance of fruitful inputs to the knowledge of communication between members of a scientific community, the thoughts running at a given time, as well as a journal and its corresponding process of selection and acceptance of work."

3 METHODOLOGICAL PROCEDURES

In this study we used the method of content analysis in the reading the opinions and verification of the reasons that led a manuscript to be rejected in the evaluation process conducted by the referees of the journal Movimento. Content analysis was chosen to perform the work. The total study population was composed of 191 opinions issued by the evaluators of the journal between 1997 and 2007. It should be noted that there were two stages in the publication of the journal. The first, from 1994 to 2001, when its scope covered all areas of physical education, worked with a general aspect. And the second, from v. 8, n. 3, 2002, when it specialized in humanities and social sciences, "[...] because, from the historical point of view, this journal was composed by publishing a greater number of articles [...] linked to pedagogical issues of Physical Education, professional development of the specialist community and socio-anthropological reflection of the sport phenomenon" (EDITORIAL…, 2002, p. 4).

The early opinions were written in the form of letter to the publisher. In 2000, a form was implemented with specific fields for the referee: title, rating of the manuscript (original research article, review work, essay, and review); description (free for writing the opinion); assessment: accepted, accepted with reformulations, and not to be published, at the end date of the opinion.

This study did not include the evaluation of the number of manuscripts evaluated, as we had access only to files of opinions, which were kept in chronological order and by name of referee in the office of the journal.

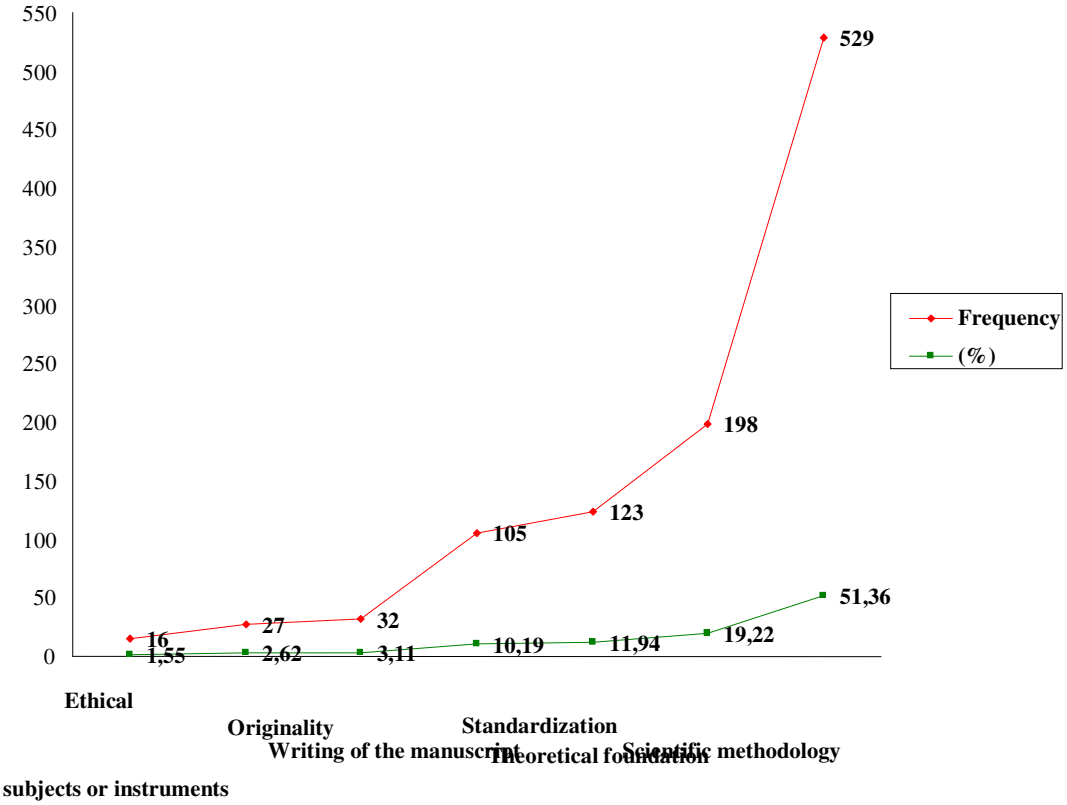
Another subject of this work was the analysis of opinions issued after the implementation of the platform for electronic publishing, the Sistema Eletrônico de Editoração de Revistas (SEER), which occurred in late 2007. We proceeded to the following stages: literature review; careful reading of each opinion; note on tables of variables chosen, maintaining the original terminology in the reasons given; data processing, analysis and interpretation; and writing. For ethical reasons, we did not identify the names of the reviewers and authors.

The first survey produced a list with a high amount of repetitive arguments. The variables were not defined a priori. As the opinions were read, the reasons were described. The following stage was the consistency of the terminology, defining argument categories: ethical, study subjects or instruments, originality, writing, standardization, technological foundation, and scientific methodology.

The data collection and data tabulation instruments were tables and a spreadsheet to count and cross-reference data.

4 RESULTS

We preserved the language used by the evaluators and pointed all reasons recorded. As the vast majority of the evaluators of the 191 opinions presented various reasons, there was a significant sum of 1,030 items collected in 77 reasons that were divided into seven categories, as shown in Graph 1. The reasons that had a high frequency of rejection were primarily related to methodological problems (51.36%), followed by lack of theoretical depth (19.22%), standardization problems (11.94%) writing problems (10.19%), lack of originality (3.11%), few tools of study (2.62%), and ethical issues (1.55%).



Graph 1 – The seven most significant categories of reasons that led to the rejection of manuscripts

Source: Developed by authors with research data

4.2.1 Ethical

In this category, we considered variables with characteristics related to research questions that pointed towards misconduct by the author in the detection of forgery, overuse of self-citation, or lack of indication of consent for research, i.e., topics that have been causing concern among various segments of the scientific community. However, the most pointed argument described by the referees related to the ethical character of the research: “text of ideological character” in four manuscripts.

In the final tabulation, the ethical issue was recorded 16 times with 1.55% of the total, a figure that expresses the few times that any such problem drew the attention of the evaluators, meaning that the other criteria receive more attention and are more strongly evaluated. This figure, although numerically small, does not indicate that the aspects pointed out are unimportant. Any of the reasons would be sufficient to reject the scientific character of a text:

a) text with an ideological character;

b) the author expresses unnecessary opinions or feelings in a scientific article;

c) the author should have taken a critical distance to assess the work;

d) the research is not objective and neutral;

e) pamphleteering, aggressive text;

f) no information on the informed consent and approval by the ethics committee;

g) lack of ethics by naming the subject of study by their condition ("*Down"* children);

h) the author assumes a stance as sectarian and perverse as the one criticized in the text;

i) the references used seem to have an ideological, biased character.

The issues of concern to the reviewer seem to point more towards direct observation of the text, consistency in speech and scientific character, without concern about the falsity of the research.

It is noticed that, according to Knobel (2003), despite the fact researchers are favorable to the evaluation process, due to the possibility of discovery of fraud or errors, the evaluators in the case studied did not meet the possible expectation of authors.

The result described by Bornmann, Nast and Daniel (2008) in their study of criteria for evaluating manuscripts confirms the results tabulated in this research: the ethical criterion and plagiarism are not the aspects most highly rated by reviewers.

4.2.2 Study subjects or instruments

This category lists subjects or methodological instruments used by the authors, i.e. empirical materials used in the research, such as questionnaires, interviews, etc. In the referees' criticism on this topic, a total of 27 different reasons, the reason "the instruments do not make inference possible" was observed 20 times, i.e. there were few questionnaires or interviews. Other reasons include:

a) a very limited universe of participants in the collection, not allowing for the generalization presented;

b) only one collection instrument, not being possible to identify the relationship between pedagogical discourse and practice; and

c) a study using only one person with the disease.

In the evaluations studied, we observe, in addition to errors in the selection of research instruments, there is an inadequacy on the sample size from the statistical point of view. This carelessness by the authors makes it difficult to meet the recommendation of Serra, Ferreira and Fiates (2008) regarding the importance of the authors' receipt of criticism to, based upon it, qualify the work produced, as it would have to be completely redone!

Castro (2006) argues that the peer review system has proven ineffective in identifying errors in statistical analysis. We observe that the peer reviewers of the Journal Movimento are aware of this important issue.

4.2.3 Originality

The rules for publication in the journal require that the manuscript is original in that it has not been submitted to another journal and that constitutes a paper that is relevant to the area. When assessing the paper, evaluators determine if the idea is developed with originality and conciseness.

When the article has been published in another form, such as a thesis, dissertation, or work presented at events, this information should appear in the submission of the manuscript so that the publisher may deems if it will submit the paper for evaluation.

The arguments described by the referees related to problems of originality of the texts, was described as 29 times as "adds nothing original" or "the work is not original" in a total of 32 similar reasons. Another reason, mentioned three times, is "the work is not new".

We concluded that this topic deserves a vertical view. To this end, we recommend a study determining if lack of originality found in the sample studied has any relationship to the phenomenon of proliferation of scientific papers or "publicationism", reported by Castiel and Sanz-Valero (2007).

4.2.4 Manuscript writing

The scientific work itself is valued for its quality of content and formal status. That refers to the substance of scientific work, as it relates to ways and means used to produce the work according to the academic rites.

This category lists the problems noted by the evaluators that relate to the form of the manuscript and compromise accuracy, clarity and communicability of the message the author intends to convey. Lack of care in drafting the manuscript is observed 105 times (10.19%) by the evaluators.

We observed "[…] mistakes in writing, typing, spelling, verb agreement and grammar, paragraphs without conclusions, and telegraphic or truncated language", in addition to poor style and writing. We report the occurrence of repetitive paragraphs, and excessive use of questions and imprecise expressions ("maybe" and "could") in a fragmented text. In general, the writing lacks a textual revision: sometimes the author mentions him/herself in the first person singular, then in the plural, with repeated terms in the same sentence, leaving nonsense paragraphs. There are serious problems with writing, making it difficult to understand the ideas of the author. There is linguistic deficiency and no logical connection. We observe the use of common-sense language, such as adjectives (unsuitable for scientific papers), such as: unworthy life, technical artificiality, unworthy and damaged relationships, (pseudo) happiness. In other others, the sentences should be better explained so that the sentences make sense.

Writing clearly is a skill to be developed. We agree with Meadows (1999), who states the author's persistence to submit a rejected article to other journals will naturally lead to a process of cleansing and improvement. However, for this process to occur, the author should know the reasons why the referees have rejected his/her manuscript.

4.2.5 Standardization

This category lists problems relating to meeting the standards of a scientific text described by the evaluators. It is a set of rules for the quality and accuracy of the aspects of scientific communication, which compromise the quality and logical development of the text. We observed a aspect very well observed by evaluators on the suitability of the work regarding both methodological and linguistic standards. The problems described by the referees totaled 123 reasons (11.94%) and are listed below:

a) the abstract does not meet the standards;

b) it does not meet the standards of the journal;

c) there are no references in a few paragraphs, not complying with the standards;

d) incorrect author quoting;

e) descriptors that are not compatible with the DECS, recommended by the journal;

f) no separation between the introduction and final sections;

g) works cited in the text are not in the references;

f) it does not meet the policy of the journal;

g) format not compatible with scientific articles;

h) inadequate structure, not meeting the standards of a scientific paper;

i) better qualified in reports of experience;

j) an excessive number of footnotes, some being unnecessary; and

k) references not meeting the standards.

In the literature researched, only Castro (2006) refers to the standardization issue, but with the intention to draw authors' attention on the necessary knowledge of the instructions given to them about the rules for submission for publication. The rules that standardize and guide the structure, preparation of abstracts, references, citations, etc. were not addressed by the authors. However, meeting the criteria established is extremely important to indicate the quality of the article.

4.2.6 Theoretical foundation

In this category, the evaluators observed the theoretical foundation relating to the topic of the research. When preparing the text, the author shows what he/she read and learned about it, describing his/her benchmark based on the authors read. Evaluators also seek to observe the "dialogue" that the author promotes among theorists included in the manuscript and consistency in the use of selected theories.

The most common reason in the theoretical foundation category was expressed as follows, being observed 54 times: "the theoretical foundation is flawed" "there is a need to improve the theoretical underpinning", "nonexistent theoretical support nonexistent". Other reasons were:

a) confusing content;

b) little bibliographic support. It lacks a more up-to-date, original literature;

c) lack of theoretical consistency. Poor reasoning;

d) conceptual imprecision. Lack of concept definitions;

e) lack of theoretical and conceptual rigor;

f) it does not cite major authors and works on the subject. Authors inappropriately used;

g) the text does not present leading authors on the subject;

h) internal incoherence of the text: what is the philosophical basis upon which the author relies?;

i) difficulty in interpreting the authors;

j) theoretical problems: it must be further developed; it transfers concepts out of context;

k) the text does not present leading authors on the subject; and

l) the text is not a dialogue between the authors presented.

4.2.7 Scientific methodology

It is the broader category of analysis, and should specifically address the methods used and described by the author, but it is a term used to denote the whole scientific work as a whole, not being restricted to identifying the scientific approach by the following methods: deductive, inductive, hypothetical-deductive, dialectical, phenomenological. Whereas this category of analysis is considered problematic, since its boundaries may invade some of the others described above, its use is justified since the reasons pointed often compromise the methodology used in the work.

We observed the following arguments related to methodological problems, described by the referees, including: 43 times, "[…] inadequate, fragile, unclear methodology; 29 times "[...] objectives not clear; and 26 times "[...] no development of the topic". Other reasons relating to the methodology are:

a) superficial methodological approach;

b) lack of depth in the discussions;

c) confusing content;

d) little bibliographical support;

e) lack of a more up-to-date, original literature;

f) empirical data do not support the discussion intended;

g) lack of empirical data to the discussion;

h) it should add tables and graphics to further explain the text;

i) lack of use of descriptive statistics to describe the results;

j) fragile conclusions; it does not justify the choice of variables;

k) data not approached;

l) no concrete results, harming the discussion;

m) it did not reach the objective(s) proposed;

n) it does not clarify the procedures adopted for analysis; and

o) weak text, without consistency.

The categories used in this study were drawn from the reading of the opinions, as explained above, meaning that other categories may be used in other similar studies. We did not found information on this specific issue in the literature researched. This is believed to be due to the rare opportunities for scholars to have access to the evaluations of referees, as in this investigation, since, in most cases, not even the authors who submit their manuscript learn the reasons for their rejection.

5 FINAL REMARKS

We conclude that the central concern of referees when evaluating a manuscript is the content and, especially, methodological aspects. Authors should be prepared to consistent demonstrate their arguments, with logical, correlated findings and conclusions, related to the objectives proposed, which often did not occur in the papers rejected.

Second, the lack of theoretical depth is the failure most often mentioned by the referees. Authors are unaware of the literature of the subject on which they intent to write, or are not in context, using the ideas of several authors and arguing, defending, or issuing a position with consistency.

The third and fourth aspects pointed out were writing failures and standardization of the manuscript, from basic problems such as typing, punctuation, and spelling, to the non-use of the editorial standards of the journal. Incorrectness of language, such as deficiencies in language and logical sequence, are also indicated. Despite being in the third place, this is one of the most inconvenient aspects of reading a scientific text. Authors should ensure reviewers rectify and standardize writing prior to submitting a manuscript to a journal. In many periodicals, non-compliance with the standards may be the main item of rejection by the publisher, even before the assessment on merit. However, in this case study, it appears that evaluators and publishers prefer to offer authors a learning, analyzing all requirements before rejecting only on the basis of sloppy writing. In many cases, the advice, even if rejecting the

manuscripts, showed the evaluators' concern to encourage authors to improve their manuscripts, indicating a pedagogical character among the peers.

The fifth aspect of rejection is the originality of the manuscript, which may also be considered a failure to comply with the instructions for authors or the standards of scientific journals, which already make clear that this is a mandatory item.

The sixth aspect is the problem of study instruments, a situation observed in manuscripts that showed case studies with interviews only one person or a small group, unable to perform the analysis. Authors should seek guidance from specialists and support in the literature on analysis instruments and research methodologies not to commit this error.

The last aspect is the concern for ethical aspects. Situations were pointed out with mistakes made by authors in scientific texts: assuming a position of an ideological, aggressive and opinionated, and biased character and lack of information about the term of consent. In accordance with the research of Bornmann, Nast and Daniel (2008), we did not detected, in the ethical criteria, plagiarism in manuscripts rejected by the journal in question. However, we believe that is a problem with a growth trend, given the news that presented earlier in this study, yet that does not seem to be an aspect of accountability, at least, exclusive of the evaluators of the journals. We foresee discussions for the coming years, involving publishers, authors, reviewers, producers, and the scientific community.

We believe that the study has answered the questions proposed. To answer the final question: Can this *study* be valid for other journals? We believed it may be useful and that further research in this sense may be conducted. As a future study, we suggest a further investigation by means of interviews with the referees. The purpose is to enable a qualitative analysis of the evaluation process with all stakeholders so that they may express themselves by evaluating their own work.

¿EVALUACIÓN DE PARES: POR QUÉ EL RECHAZO DE LOS MANUSCRITOS SOMETIDOS A UN PERIÓDICO CIENTÍFICO?

Resumen: Cuando los investigadores envían los resultados de su investigación para publicación, es evaluado su producción intelectual por los miembros de la comunidad científica. El proceso, llamado el sistema de arbitraje, evaluación de los originales, revisión inter pares, *referee system* ou *peer review*, es el uso de los árbitros para ayudar en la evaluación de los manuscritos presentados para su publicación. Cuando se sometan a un proceso de análisis, la respuesta puede ser tres: aprobado, aceptado o rechazado objeto de correcciones y puede hacer un tipo de enseñanza o de carácter punitivo. Este estudio examina las opiniones de 191 manuscritos presentados a una revista desde 1997 hasta 2007 con la finalidad de conocer las razones que han conducido a los evaluadores su rechazo para su publicación.

Palabras clave: Revisión por pares. Comunicación científica y la difusión. Manuscritos.

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Research project 2007911, approved by the Ethics Committee of UFRGS, 10/02/2008.