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analysing the evaluation of the first proposals of
professional doctorates in the country

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ACCREDITATION OF GRADUATE COURSES IN BRAZIL: ANALYSING THE EVALUATION OF THE FIRST PROPOSALS OF PROFESSIONAL DOCTORATES IN THE COUNTRYⁱ

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Abstract

This paper investigates the assessment of the first-ever proposals for accreditation of professional doctorates in Brazil. This modality of course was implemented in the country in 1998 and was designed to bridge the gap between academia and the productive sector, further integrating scientific research and societal needs. At first, the modality was restricted to the master's level, and only in 2017 new legislation authorised institutions to submit professional doctorate proposals to CAPES: the Brazilian agency in charge of accrediting graduate education. By May 2019, 30 new courses were approved, and this research analysed the evaluation reports of all of the 135 proposals initially submitted, in order to identify the criteria used to either or not accredit the courses. From the coding of such reports, it was also possible to map what the agency expects to see in successful proposals, as well as to ascertain if the evaluation process has been conducted coherently and consistently across different fields. With that, this paper can also be seen as a contribution to Brazilian academia in the design of future professional doctorate proposals.

Introduction

Graduate education started in Brazil in the first decades of the 20th Century, at first as a reflection of the professional higher education model which dominated the country until the end of World War II. It was only from the 1950s, with the enhancement of the Brazilian development process, that universities began conducting research on top of teaching, and the activity found its place primarily within masters and doctorate programs (Sucupira, 1980). Balbachevsky and Schwartzman (2010) described this process as the graduate foundations of research in Brazil. The role of such programs today is impressive since they account for at least 80% of all research in science & technology conducted in the country (SBPC, 2018).

The numbers of the Brazilian System of Graduate Education are also notable. By January 2019, there were already 6592 active courses in the country, most of them in the academic modality: 2247 doctorates and 3557 masters (BRASIL. Ministério da Educação. CAPES, 2014a). The remaining 788 courses were professional masters: a modality first authorised in 1998 through legislation which allowed higher education institutions to develop courses to “articulate teaching with the professional application, in a differentiated and flexible way” (BRASIL. Ministério da Educação. CAPES, 1998). After two decades of experience at the masters level, in 2017 the Ministry of Education extended the authorisation of the modality for the doctoral level as well, and 135 proposals for the accreditation of such courses were presented since then (BRASIL. Ministério da Educação. CAPES, 2017a).

In Brazil, the accreditation of new graduate courses is compulsory, being one of the duties of the Brazilian Agency for Support and Evaluation of Graduate Education (CAPES). This organisation was founded in 1951 in order to strengthen the development of science, technology and innovation in the country: a task performed through the evaluation, accreditation and funding of graduate courses (Guimarães & de Almeida, 2012). For the agency, the assessment of the first proposals for professional doctorates was a challenge, as the criteria to be adopted for the evaluation was undefined. Legislation authorising new projects for these courses described only the need to strengthen the relations between research institutions and professional sectors, both public and private (BRASIL. Ministério da Educação. CAPES, 2017a).

As described by CAPES ordinance 161/2017¹, the evaluation process starts at the higher education institutions, where prospective graduate program directors (GPD) draw proposals to be submitted to CAPES. Such projects contain information about the course, including objectives, faculty involved, the institution's infrastructure for teaching and research, and more. With the approval of the institution's pro-rector for research and graduate education, the project is submitted to one of 49 possible evaluation fields at CAPES. Fields such as Economics, Philosophy, Chemistry, Education, exist at the agency in order not only to organise and manage graduate programs in Brazil but also to perform evaluations in a way that accounts for variations among such fields (BRASIL. Ministério da Educação. CAPES, 2017b).

The lack of clear guidelines for the design of the first professional doctorate proposals, both at the macro and at the field level, could be seen as a problem. However, according to CAPES, the idea behind the decision was that any criteria or indicators defined by the agency beforehand would influence and limit the ground-breaking potential of proposals. The idea was to allow Brazilian academia to present unrestricted proposals in this first round. From work conducted by CAPES and its scientific committees on their evaluation, a report would become available for the next cycle of evaluation. This report would contain expectations, guidelines and indicators for the accreditation of professional doctorates (Barata, 2017).

Based on that foundation, the evaluation of new professional doctorates took place from mid-2018 until May 2019, when the accreditation results for the last proposals were released (BRASIL. Ministério da Educação. CAPES, 2019). By analysing such results, this research aims to understand the performed assessment to identify the criteria adopted to either or not approve each new course. From that, the goal is to obtain a thorough understanding of what the agency and the scientific committees involved in the evaluation expect from such courses and then provide a guide to what higher education institutions should consider when designing new doctorate proposals in the professional modality.

Methods

At every evaluation cycle, which usually takes place yearly, CAPES receives hundreds of proposals for the accreditation of courses. The most recent cycle included proposals of 2017 and 2018: a record of 1.354 submissions, distributed as shown in Table 1.

Table 1. Proposals submitted to CAPES, in the evaluation cycle of 2017/2018, for the accreditation of new graduate courses in Brazil.

<i>Level / Modality</i>	<i>Masters</i>	<i>Doctorate</i>	<i>Masters and Doctorate</i>	<i>Total</i>
Academic	409	312	53	774
Professional	445	111	24	580
Total	854	423	77	1.354

Each proposal can consist of a single course, in the masters or doctorate level, or include the two levels. In this last case, results are independent, and accreditation can be given to both, either or neither proposed level. As stated before, the focus of this research is on the 135 proposals of professional doctorates submitted to CAPES (111 for doctoral courses only and 24 for both master's and doctorate levels). Such proposals were submitted to 31 distinct fields. Their distribution can be seen in Figure 1, where fields are arranged according to the broad groups to which they are associated.

¹ In February 2019, CAPES issued ordinance 33/2019 regulating the evaluation process of new graduate course proposals. Even though there is already updated legislation about the topic, the evaluation covered by this research was performed under ordinance 161/2017, so this is the one which was considered for the analysis.

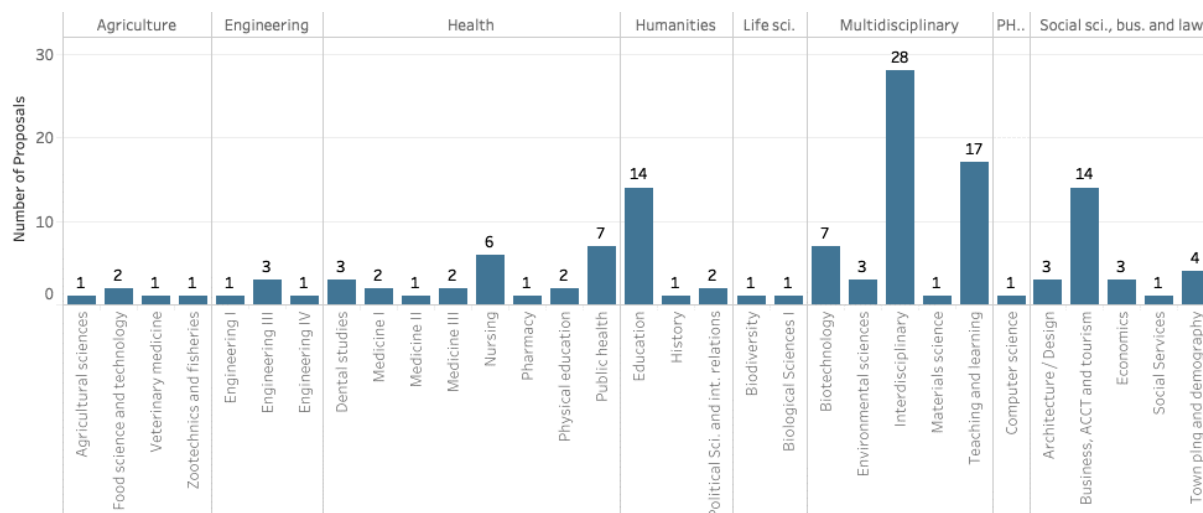


Figure 1. Distribution of submitted professional doctorate proposals in the 2017/2018 evaluation cycle, by evaluation field and broad group.

Figure 1 shows an uneven distribution. Several fields have received one or two proposals only. Three fields received more than five proposals (Nursing, Public Health and Biotechnology) and only four took in over ten (Education, Business, Teaching and Learning, Interdisciplinary). The high number of proposals in the Interdisciplinary field reflects a general tendency of the area. It received 141 submissions on all modalities, accounting for more than 10% of the 1.354 in total.

Even though there are differences in the evaluation process, every field appoints a scientific committee to assess their proposals. In order to judge the projects consistently and in a way that allows crossfield comparison, each committee conducts the analysis guided by a predetermined assessment form, shared by every field. In this, four dimensions are judged in merit, as described in Table 2:

Table 2. Shared dimensions analysed for the assessment of new graduate course proposals.

<i>Dimension</i>	<i>What is assessed by the committees?</i>
Conditions provided by the institution	Does the proposal provide indicators that the institution is committed to the implementation and success of the proposed course? Can the program count on an essential infrastructure to support its activities (physical structure, laboratories, library, computer resources, and more)?
Course proposal	Is the proposal adequately designed, with clearly defined and articulated objectives, concentration areas, research lines and curriculum structure?
Faculty size and workload	Is the number of professors, notably those full-time in the institution, enough to support the course activities, considering the concentration areas and the number of students expected?
Faculty productivity and research capacity	Does the program have, especially within its permanent professors, a group of researchers with scientific maturity confirmed by their production in the past five years? Are these researchers integrated in a way that allows the development of research projects as well as teaching and supervision activities?

From the assessment of each proposal concerning the four dimensions presented in Table 2, committees produce evaluation reports. These documents reflect a qualitative and quantitative analysis of the projects and carry the field recommendation of whether or not to approve

the accreditation of the new course. After the assessment by field committees, reports are forwarded for examination by evaluators in distinct fields. For example, a proposal presented to the Economics committee might have its assessment reviewed by evaluators from the fields of Political Science and Architecture, in a process that could be described as an “evaluation of the evaluation”. Even though such review must consider the criteria and characteristics of the field of the submission, its objective is to guarantee that the assessment is fair and coherent.

Once this analysis is performed and the results discussed between all parties, the report follows to a final evaluation by CAPES’ Technical and Scientific Council for Higher Education (CTC-ES). This Council counts with 20 field coordinators representing all the nine broad groups discussed earlier, as well as representatives from the Brazilian Association of Graduate Students (ANPG), the Brazilian Forum of Pro-Rectors for Research and Graduate Education (FOPROP), and from CAPES itself. At the CTC-ES meeting, the counsellors in charge of each proposal present their assessment of the whole evaluation process and, after the necessary debate and voting by all members of the Council, the final decision is included in the evaluation report and, from that, the results are made public.

This research is based on the examination of the reports of all the 135 proposals for accreditation of professional doctorates submitted in the 2017/2018 evaluation cycle, according to results released by May 2019² (BRASIL. Ministério da Educação. CAPES, 2019). From them, an analysis of how the four discussed dimensions were assessed for each proposal is performed in order to identify the most common strengths and fragilities of the evaluated projects.

Findings and discussion

To begin to understand the results of the professional doctorates assessment, it is essential to look at some descriptive statistics related to the evaluation results published by CAPES until May 2019 (BRASIL. Ministério da Educação. CAPES, 2018). For that, Figure 2 displays absolute and relative accreditation information on 1.404 courses. Courses of the 77 proposals that requested accreditation of masters and doctorate levels at once (see information on Table 1) are accounted separately on the graph. The reason is that, as stated earlier in the paper, the result of the analysis is independent for each level.

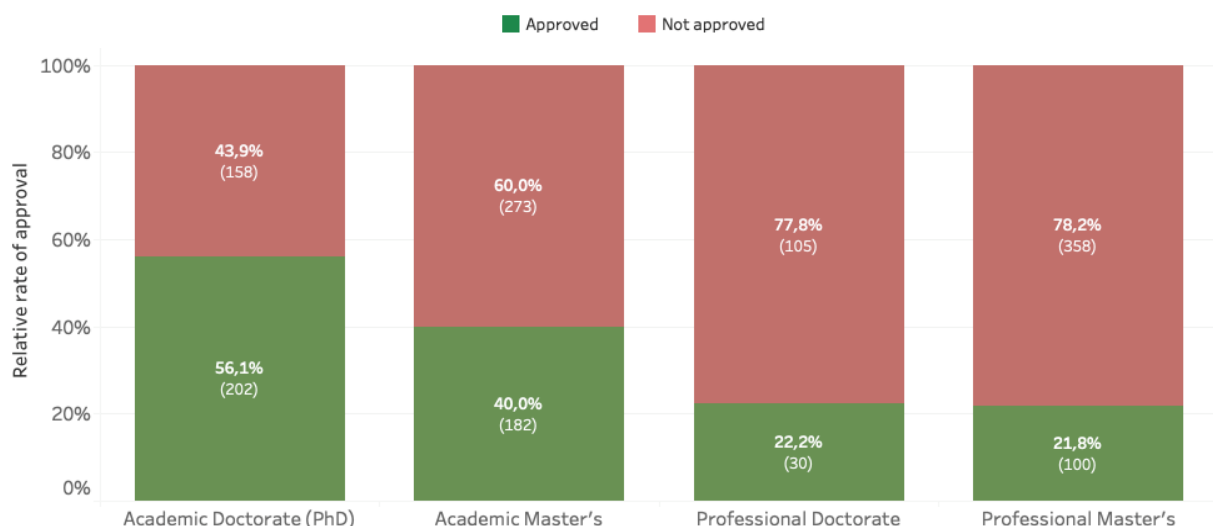


Figure 2. Relative approval rates, accompanied by absolute numbers, of new course proposals evaluated by CAPES by May 2019.

² This includes the first analysis for 100 proposals (subject to reconsideration requests) as well as results for such requests presented for 35 proposals, and which were already judged by May, 2019.

Figure 2 shows that 30 professional doctorates have been accredited, an approval rate of 22,2%. When compared to a success rate of 56,1% for academic doctorates and 40% for academic master's, this rate is strikingly low. Although, when compared to the approval of professional master's, at 21,8%, the low success rate seems to be related to professional proposals in general, rather than to a problem with the doctoral projects for the new modality. Thus, by investigating the reasons for not approving professional doctorates, it might be possible to understand why proposals in the modality have not been successful overall.

Another relevant analysis on the approval of professional doctorates comes by considering that a proposal can ask for the accreditation of a master's and a doctorate at once, or only of a doctorate. Figure 3 shows how the evaluation results relate to this aspect of the proposals.

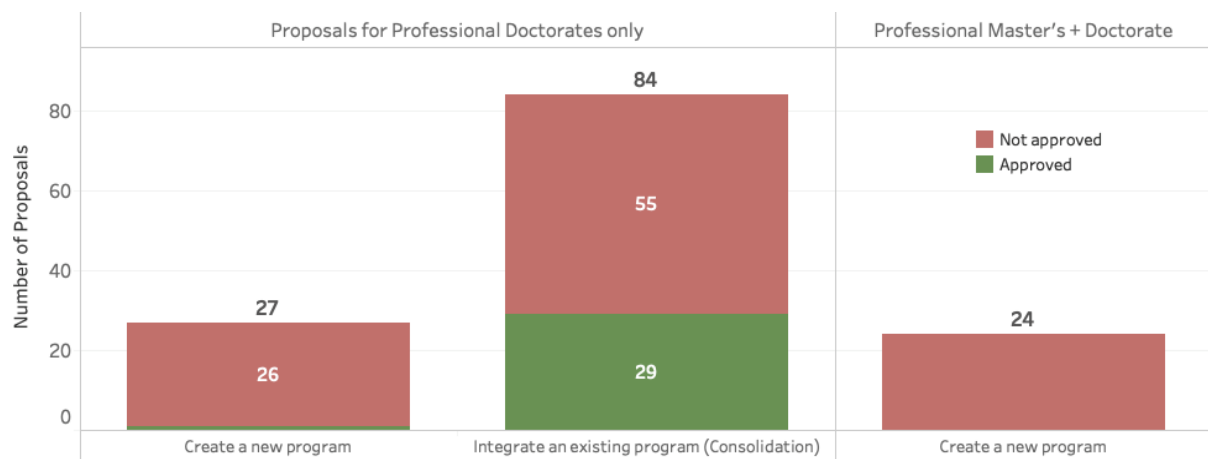


Figure 3. Panorama of the approval rate of professional doctorates, according to if is a joint proposal with a master's and if it will create a new program.

As it can be seen, even though the regulations for new course proposals do not restrict such submissions, joint professional master's and doctorate proposals – or even isolated doctorates without the previous experience of established professional masters – embodies little to no chance of accreditation. Actually, out of the 30 approved doctorates, 29 will integrate an existing program, building over the experience of a previous master's course already in place. The only exception is a single course establishing a new program, but its evaluation report mentions it is an associated endeavour of five distinct institutions, some counting with established master's individually. So, even this one course builds on previous experience.

After this initial understanding of the accreditation of professional doctorates, the next step would be the analysis of the strengths and weaknesses of the projects. In that sense, the first conclusion from the review of the 135 evaluation reports is that the ground-breaking proposals expected by CAPES did not materialise. What could be seen in every report, even for accredited courses, is that projects took few risks, mostly trying to replicate the traditional formula of previous professional master's and academic doctorate proposals. As a consequence, the evaluation process revolved around the feasibility of the presented projects.

An additional aspect of the evaluation reports is that favourable assessments regarding the four dimensions (Table 2) included recognition of quality, but did not provide detailed descriptions as to why quality was present. For example, a report might say that the course proposal is coherent for a professional doctorate, but would not explain the reasons why; or it might say the infrastructure is adequate for the proposal, but never describe what made it so. As a result, focusing on positive assessments did not generate enough information to map the criteria for the accreditation of new courses.

Fortunately, negative assessments in the reports were mostly followed by clear accounts of what should be improved to achieve the expected level of quality for accreditation. Thus, a decision was made to achieve the research’s objective in a better way: instead of mapping the reasons why committees and the CTC-ES would accredit a new course, we focused on the more comprehensive descriptions to refuse accreditation and then extrapolated the conclusions to establish the main requirements to get a proposal approved. With that, Figure 4 focus on the non-approved proposals, offering some insight into how the four dimensions presented in Table 2 were evaluated.

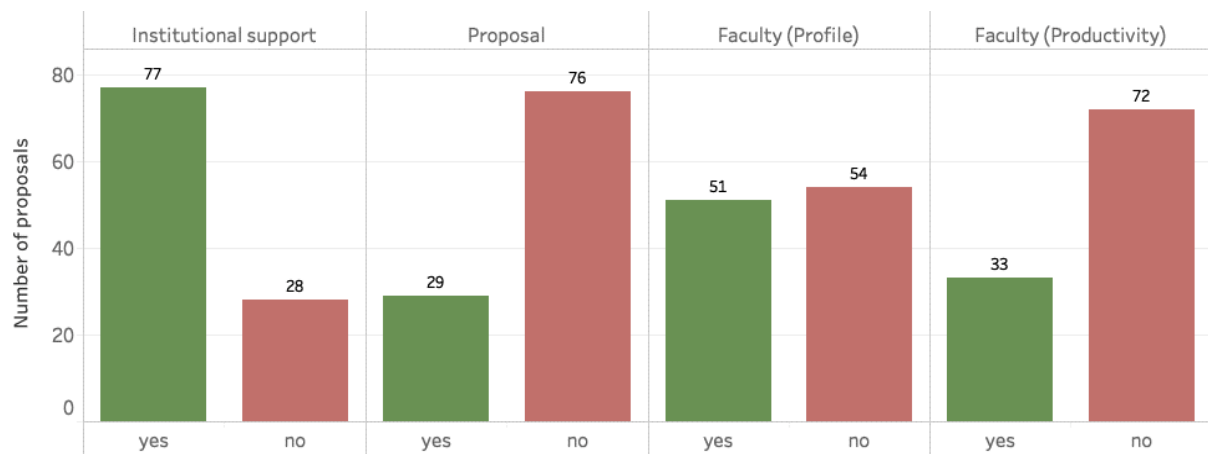


Figure 4. Panorama of the assessment of the four dimensions of analysis, considering only the 105 professional doctorate proposals which were not approved.

The first thing to notice in Figure 4 is that more than 70% of the non-approved proposals were evaluated positively regarding institutional support. This shows that most higher education institutions are not only committed to the implementation and success of their proposed courses but can also provide the necessary infrastructure to support these activities.

The examination of the reports for the 28 proposals which were not considered to be good enough in their institutional support shows that the main reason for a negative assessment is the lack of the necessary documentation either to show the commitment of the institution with the new course or to present the required course regulations. This problem appeared in 15 of the negatively evaluated proposals. The second most common reason for a poor evaluation in this dimension is a superficial, poorly detailed or imprecise description of the available infrastructure, which might indicate an absence of such foundations for teaching and research. This has been seen in 12 proposals and was followed by an actually inadequate infrastructure (observed in 5 proposals), or the lack of evidence that the institution would be able to maintain the presented infrastructure over time (two proposals).

While most institutions can provide adequate support for their courses in the first dimension, 54 out of the 105 non-approved proposals were assessed negatively in the dimension related to “faculty size and workload.” The reasons for that are mostly regimental, and in most cases against general evaluation norms available at CAPES’ website: 1. Reduced number of professors in relation to field expectations; 2. Professors are taking part in a larger number of courses than what it is allowed by the field or current regulations; 3. Professors do not have previous or adequate supervision experience; 4. Reduced number of faculty hours dedicated to the program. (BRASIL. Ministério da Educação. CAPES, 2019)

The dimension with the lowest evaluation scores is the “course proposal” itself. A total of 76 proposals received negative assessments in this dimension. The top five reasons for this, according to the reports were: 1. The proposal seems to have an academic approach, instead of a professional one; 2. The project lacks the depth or the level of innovation which is expected

from a doctoral course; 3. The presentation is superficial, and either the objectives or the ways to accomplish them cannot be assessed; 4. The course proposed seems to be an unnecessary replica of another in existence at the institution; 5. The proposed syllabus, concentration areas or research projects are poorly designed or do not articulate with the course’s objectives.

Regarding the fourth and last dimension, “faculty productivity and research capacity,” the object of the evaluation is to assess the previous scientific production of the faculty in order to check their capability to develop the proposed research. To provide such information, proposals include a portfolio of up to five distinct products per researcher. However, in 72 out of 105 non-approved projects, proponents included mostly or only products with an academic orientation in the proposals, omitting the expected technical production. In some situations, it is evident that the information provided was selected based on journal rankings and usual scientific production metrics. As a consequence, some portfolios included products that had no direct relation to the objective of the new course, which would not help to measure the researchers’ experience in the proposed field of work. Also, if portfolios lack technical or technological production, listing only papers published in indexed journals, evaluators could not verify the faculty’s ability to run a professional, applied graduate course.

Even though the subject deserves a continuous and even more in-depth investigation, the main requirements for a proposal to obtain positive evaluations on any given dimension are now more evident: 1. Proposals should present proper institutional support for the new course, including the necessary infrastructure, adequately described and documented; 2. Proposals should provide evidence of their applied research approach, making clear that the new course is a professional one. The projects may not be superficial in this sense, and every aspect of the course’s design should reflect that: from concentration areas to the syllabus; 3. Faculty size, profile and workload should respect field expectations, which are referenced in related legislation and also in field documents available at CAPES website; 4. Scientific production listed in researchers’ portfolios should not only be a collection of their best work, indicator-wise. Such portfolios should display their ability to conduct high-quality research within the field of the proposed course, as well as their capacity to translate science into practice. Thus, technical production should be included.

The expectations for accreditation that were listed above appeared in most evaluation reports and no abnormalities were found across distinct fields. With consistent results, what is still unknown about the non-approved proposals relates to how far they are from being approved. To answer this question, Figure 5 displays how such proposals performed in terms of positively evaluated dimensions.

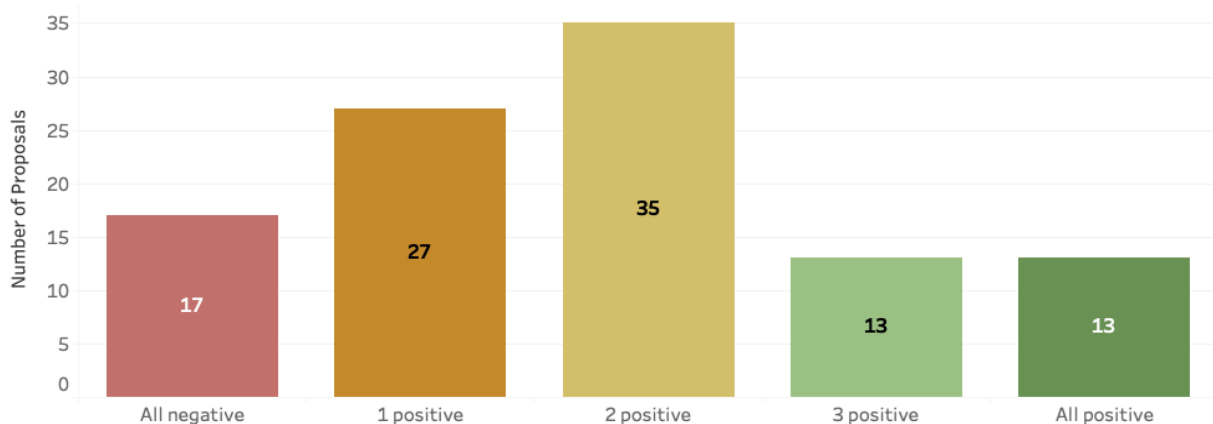


Figure 5. Distribution of proposals according to the number of dimensions that received a positive assessment (only non-approved proposals)

Out of the 105 non-approved proposals, only 17 received low evaluation scores across-the-board, showing to be very far from what it is expected from a graduate course at a doctoral level. Then there were 27 proposals with one positive dimension, 35 with two positive dimensions and 13 with only one negative dimension. These last ones would be “almost there,” having to perfect just one single factor to be able to be accredited in a future evaluation cycle.

Figure 5 also shows that 13 proposals were evaluated positively in every dimension, but were not accredited nevertheless. Even though this might seem incongruous, the analysis of the reports confirms evaluations were conducted coherently in these cases, and two situations are present here. In the first one, seen in four joint proposals for master’s and doctorates, the quality of the project was recognised in all four dimensions, but either the faculty or the project itself were not considered ready for the doctoral level. Thus, only the master’s course was accredited.

In the second situation, the reports of nine proposals show that the evaluation field committees recommended the accreditation of the courses, but the CTC-ES disagreed with the assessment. In six of these cases, the Council requested proponents to provide additional documents or clarifications regarding the proposals, or even appointed a committee to visit the institutions to elucidate eventual doubts regarding the analysis. Ultimately, these proposals were not approved for three distinct reasons: 1. In one of the cases, the proponents could not make clear what was the difference for the new doctorate concerning the master’s course already in place at the institution; 2. In four proposals the Council identified that a large portion of the faculty was already involved in other graduate programs, in numbers either against current regulations or in a percentage that would hurt the development of the proposed research; 3. Finally, in five cases, the CTC-ES considered that the proposal had an extremely academic profile, instead of the professional one that was necessary.

As discussed earlier in the paper, the evaluation process adopted by CAPES includes distinct phases of analysis and review, starting with scientific committees and going through external scrutiny and posterior examination in a multidisciplinary council. From the report analysis it became clear that such multilevel evaluation was relevant to guarantee that no proposal was wrongly assessed, as the review allowed an additional look at the projects and the eventual adjustment of the results.

Conclusion

The Brazilian Agency for Support and Evaluation of Graduate Education (CAPES) faced a challenge in designing the first-ever evaluation of professional doctorates in the country. One of the most critical choices in the process was not to set the assessment criteria and indicators in advance but to develop them throughout the evaluation process. According to Barata (2017), the reason for this decision was that the agency trusted the capabilities of Brazilian academia to “think outside the box,” which could result in the submission of inspired proposals.

As argued, these ground-breaking proposals expected by CAPES did not materialise. The projects presented did not take the opportunity to innovate, avoiding risks by using established formulas previously seen for professional masters and academic doctorates. As a result, the evaluation process needed to focus on the viability of the proposed courses. That was an undesirable result, but there was also an additional threat, in the absence of predefined guidelines for the evaluation: the whole process could lack adequate coherence.

Fortunately, the analysis of the evaluation reports was able to show that CAPES’ assessment was well conducted, and the expectations for the approval of new professional doctorates are consistent throughout the 31 fields that received proposals so far. By the time this paper is published, the official criteria used for the accreditation of professional doctorate proposals will probably be public. Despite that, it is already possible to make some statements. For example, even though there is not yet any rule against a professional master’s/doctorate proposal or a

standalone doctoral one, evaluators expect institutions to have prior experience at the professional master's level before they can venture into the doctoral level. Unless such institutions can present an exceptional case, they will be wasting their time and energy in such proposals.

Some other requirements for the approval of professional doctorate projects also became evident throughout this research, including the need for clear institutional support for new courses; the inclusion of an adequately sized and experienced faculty; as well as the presentation of a coherent course structure counting with suitable concentration areas, research projects and syllabus. Nevertheless, the most crucial element considered for the accreditation of these new professional doctorates was the applied research approach, indispensable for the success of any proposal.

At the time of writing, the results of the accreditation process are not yet final. This is due to the fact that institutions are allowed to request reconsideration of their proposals after a first negative assessment. However, what CAPES and the community of expert reviewers expect from professional doctorates became more evident from the conducted analysis. Thus, the hope for the evaluation process is that it will be improved and better documented from the first cycle of proposals, but there is little doubt about the quality and coherence what has been done so far.

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