

2025: Vol 6, Nr 1

doi: 10.24834/jotl.6.1.1827

PHD EDUCATION IN BRAZIL AND SWEDEN: A COMPARATIVE PEDAGOGICAL ANALYSIS

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Abstract

This study provides a comparative analysis of PhD programs in Sweden and Brazil, focusing on structural conditions, processes, and products such as the thesis. The research highlights differences between the two systems: Sweden's approach, characterized by formal employment for PhD candidates, rigorous qualification reviews, and public defenses with minimal post-defense corrections, and Brazil's scholarship-based model, which offers greater flexibility in research development, formal qualification processes, and more iterative correction phases. The study examines these differences and discusses how support structures and evaluation processes influence doctoral research quality and candidate experiences.

Keywords: PhD Education, Comparative Analysis, Sweden, Brazil

Sammanfattning

Denna studie presenterar en jämförande analys av doktorandprogram i Sverige och Brasilien, med fokus på strukturella förhållanden, processer och produkter av doktorandutbildningen, såsom avhandlingen. Forskningen belyser skillnader mellan de två systemen: Sveriges modell, som kännetecknas av formell anställningsstatus för doktorander, strikta kvalifikationsgranskningar och offentliga disputationer med minimala efterföljande korrigeringar; och Brasiliens stipendiebaserade modell, som erbjuder större flexibilitet i forskningsutvecklingen, formella kvalifikationsprocesser och mer iterativa korrigeringsfaser. Genom att undersöka dessa skillnader diskuterar studien hur varierande stödfunktioner och utvärderingsprocesser påverkar kvaliteten på doktorandforskning och kandidatens erfarenheter.

Nyckelord: doktorandutbildning, jämförande analys, Sverige, Brasilien

Introduction

Doctoral education has been extensively studied for its role in advancing knowledge and fostering innovation within academic and professional contexts. However, the structure, expectations, and support systems associated with PhD programs vary significantly across countries and even within the same country, reflecting broader cultural and institutional priorities. Comparative studies have often explored these differences to understand better how they shape the experiences of PhD candidates and their supervisors and the overall effectiveness of doctoral training (Verhine, 2008; Geschwind, 2018; Kang & Nilsson, 2022).

Previous research has highlighted that in countries like Sweden, PhD candidates are treated as salaried employees, benefiting from job security, structured work environments, and integration into the professional workforce (Geschwind, 2018). This approach aligns doctoral training with labor market needs and supports the development of a professionalized academic workforce (Silander & Stigmar, 2019). On the other hand, in Brazil, PhD candidates are regarded primarily as students who receive scholarships. While these scholarships provide financial support, they lack the stability and long-term benefits associated with salaried employment, leading to differences in job security and financial independence during the studies (Meis et al., 2007; Jordão, 2019; Silva et al., 2021; Kang et al., 2021).

Regarding the procedural structure of doctoral programs, Swedish institutions often emphasize a combination of coursework, structured milestones, and professional development opportunities throughout the candidate's study period (Moreno, 2014). Brazilian PhD programs, on the other hand, focus more intensively on research, offering candidates greater flexibility in managing their work but with fewer formal structures. This flexible approach can benefit students who thrive in independent research settings, although it may also present challenges for candidates facing resource constraints or needing more guidance (Jordão, 2019).

Previous comparisons between the broader education systems of Sweden and Brazil have highlighted key differences in structure and management. For instance, recent studies examined similarities and differences in basic education between these two countries, emphasizing the decentralized approach in Sweden, where municipalities oversee education under guidelines from the National Agency for Education (Brandão, 2019). This model ensures consistency and equitable access while promoting local adaptation. In contrast, Brazil's centralized education system faces challenges in addressing regional disparities, often resulting in unequal access to resources and quality education (Brandão, 2019). These systemic differences in foundational education frameworks likely influence the structure and expectations of higher education, including doctoral programs.

Another study analyzes differences in education performance between Sweden and Brazil over key periods of globalization and modernization (Kang & Nilsson, 2022). Their work reveals how education was integral to Sweden's early modernization and welfare state development. Brazil's educational expansion was a delayed response to global challenges, resulting in limited modernization between the 1870s and 1970s. However, despite these comparative analyses, the structural and procedural nuances of doctoral programs in Sweden and Brazil remain underexplored, leaving a gap in the literature this study seeks to address.

In this work, I will investigate both the process and the product of PhD education, focusing on the institutional structures that guide PhD candidates (the process) and the thesis, which represents the

culmination of their research efforts (the product). By comparing the PhD programs of Sweden and Brazil, this study aims to provide a descriptive comparative analysis of how financial, procedural, and academic factors shape the doctoral journey and its outcomes, incorporating a critical evaluation informed by personal insights and relevant literature. This investigation will offer insights into how supervisory practices and institutional frameworks shape the experiences of PhD candidates and their research output in different countries.

Structural Conditions of PhD Education

PhD programs in Sweden and Brazil differ fundamentally in how they view the doctoral candidate's role within the university, reflecting broader distinctions in the doctoral education process between the two countries. Table 1 presents a comparative analysis of the process-related elements within PhD programs in Sweden and Brazil, emphasizing the key differences in financial structures, work obligations, and benefits.

Table 1: Comparison of structural conditions between Sweden and Brazil

Aspect	Sweden	Brazil
PhD Status	Employee	Student
Financial Support	Salary (employment contract)	Scholarship (stipend)
Average Monthly Income	Higher, based on salary agreements	Lower, fixed by scholarship agencies
Duration of Financial Support	Throughout PhD period (4-5 years)	Limited by scholarship duration (4 years)
Employment Benefits	Full benefits (health, pension, etc.)	No benefits, only a stipend
Additional Work Obligations	Teaching/research assistant duties	Optional, less formal
Work Experience During PhD	Strong focus on career development	Mainly research-focused

In Sweden, PhD candidates are hired as full-time employees by the university, a feature of the Swedish doctoral system that aligns with the country's institutional emphasis on professionalizing academic training (Silander & Stigmar, 2019). As employees, PhD candidates receive a salary and enjoy the same rights and benefits as other university staff, including health insurance, pensions, vacation time, and social security. The salary is regulated and often increases as the candidate progresses, reflecting the structured nature of the PhD process in Sweden. However, being employed also involves structured working conditions that go beyond research. PhD candidates in Sweden typically balance their research with additional responsibilities, such as teaching or assisting in university projects. While this can

provide valuable professional experience, it may also introduce time management challenges, as candidates must work in multiple roles.

Integrating PhD candidates into the university's operations helps foster a professional environment, allowing them to gain valuable experience for their future careers. From a personal perspective, having been immersed in a professional academic context in Sweden, I see this model as offering an opportunity for early career development that is often overlooked. The structured environment pushes candidates to develop time management and multitasking skills, essential for academia or industry. In addition, the salary ensures financial security, enabling candidates to focus more on their research without the added pressure of financial instability. This framework aligns well with the insights from previous research (Silander & Stigmar, 2019), who highlight how Sweden's system nurtures a well-rounded academic professional.

In contrast, Brazil's doctoral system treats PhD candidates as students rather than employees, reflecting a different pedagogical approach. PhD candidates in Brazil typically receive scholarships from government agencies such as CAPES, FAPESP, or CNPq. These scholarships provide a monthly stipend, which is generally much lower than the salary offered to PhD candidates in Sweden and lacks employment benefits like health insurance or pension contributions (Jordão, 2019). Additionally, many PhD students in Brazil begin their studies without financial support, aiming to secure scholarships during their doctoral journey. Unlike in Sweden, there is no formal work contract, and PhD candidates are not much integrated into administrative duties during their studies. This model, focused more on research, emphasizes the student's role as a learner, with fewer structured professional obligations.

As someone who has experienced both the Brazilian and Swedish PhD systems, I recognize the benefits and drawbacks of each approach. While the scholarship-based system in Brazil limits financial security, it does provide candidates with a focus on pure research without the distractions of additional work duties. In many cases, the limited professional obligations allow candidates to invest in their research topics, a luxury that can provide a more independent academic experience. However, this model also risks the lack of professional integration, leaving Brazilian PhD candidates less prepared for the diverse roles required in academia or industry post-graduation. The challenges early-career researchers face in Brazil, highlighted in previous studies where inadequate funding leads many to abandon their academic careers (Silva Junior et al., 2021; Kang et al., 2021), reflect a structural gap that needs addressing. These financial limitations weaken the sense of security integral to a candidate's ability to focus on their research (Silva Junior et al., 2021).

While Sweden's model ensures financial stability and professional integration, it also brings challenges. The study (Moreno, 2014) discusses how including coursework in PhD programs can be both a benefit and a burden. When coursework is mismanaged, it detracts from the time PhD candidates can dedicate to their research, a concern that resonates with the structured environment of Sweden's system, where candidates are often expected to engage in various academic responsibilities. Another notes that Swedish higher education policies emphasize institutional development, with an institutional perspective focusing on skill production and practical application study (Silander & Stigmar, 2019). This emphasis on practical, institutional roles may detract from the individualized research experience that some candidates may prefer.

In summary, the differences between the structural conditions of Swedish and Brazilian PhD systems reflect the distinct educational philosophies of each country. Sweden's model, where the university employs PhD candidates, ensures financial security and creates a professional environment where candidates take on teaching and administrative roles. This approach enhances their academic experience and prepares them for future careers in academia or industry, though it can sometimes lead to time management challenges. On the other hand, Brazil's system, which views PhD candidates primarily as students, allows for a deeper focus on research but at the cost of financial stability and professional experience. While this research-centric approach provides more independence, it risks leaving candidates underprepared for the demands of post-graduation careers. Both systems have their strengths and weaknesses, and understanding these contrasts can highlight areas for improvement in doctoral education, particularly in balancing research focus with professional development.

Process and Product of PhD Education

The qualification and presentation milestones in PhD programs represent critical phases where candidates must demonstrate their research progress and readiness to continue. In Sweden and Brazil, these milestones are approached differently, influencing the structure of the PhD process and how corrections are handled. Table 2 compares the PhD processes in Sweden and Brazil, highlighting key aspects such as qualification milestones, mid-point reviews, correction handling, defense structure, and feedback processes.

In Sweden, PhD candidates follow a structured process with regular milestone seminars at 10%, 25%, 50%, 75%, and 90% completion stages. These seminars serve as formal checkpoints, allowing candidates to present their progress, receive feedback, and make necessary adjustments before moving forward (Brodin et al., 2020). Each milestone plays a specific role in the academic journey, with increasing evaluation as candidates approach the later stages. The mid-point review at 50%, one of the most significant milestones, typically involves a formal evaluation by a panel, often including an external opponent, who provides critical feedback to ensure the candidate is on track for the final dissertation phase. This structured, step-by-step process helps the student perform his/her research, develop research skills, and have a starting point for developing the thesis (Moreno, 2014).

Brazil's approach, while still structured, tends to feature fewer formalized milestone seminars compared to Sweden. The qualification milestone, called the "qualifying exam" or "preliminary defense," usually occurs halfway through the program, like the mid-point review. While these assessments involve internal and external reviewers, the system lacks the same number of formalized milestone seminars found in Sweden's system. Candidates are evaluated on their research progress, but the reduced frequency of formal feedback sessions means that Brazilian PhD candidates often have more independence in managing their research timelines, which can result in less structured guidance compared to the Swedish approach. The Brazilian system emphasizes the individual relationship between advisor and student rather than formalized committees or frequent structured evaluations. This results in more autonomy for students but also less frequent, formal checkpoints (Verhine, 2008).

Table 2: Comparison of structural conditions between Sweden and Brazil

Aspect	Sweden	Brazil
Qualification Process	Structured with regular milestone seminars at 10%, 25%, 50%, 75%, and 90% completion stages.	Fewer formalized milestones; qualification milestones typically at 50%.
Mid-Point Review	Significant mid-point review involving a panel, often with an external opponent for critical feedback.	The qualifying exam includes internal and external reviewers.
Handling Corrections	It requires submitting a final version before the public defense and incorporating a nailing tradition.	The iterative process allows significant time for revisions after the qualifying exam.
Defense Structure	Public defense with an opponent leading the discussions.	Public defense is where candidates typically start the discussion, engaging with reviewers.
Feedback Structure	Regular feedback sessions through milestone seminars to promote progress.	Reduced frequency of formal feedback sessions, allowing more independence in research management.

From my perspective, Brazilian PhD candidates thus enjoy more autonomy in managing their research timelines, a benefit that some may appreciate but also a potential challenge for those who need more guidance. While the Brazilian system offers greater flexibility, allowing students to invest deeply in research without the regular interruptions of formal assessments, this autonomy sometimes leads to a lack of structured feedback, which can be challenging. This observation aligns with the idea that while more autonomy can provide independence, it can also result in a lack of critical feedback and guidance. This is crucial for ensuring the research progresses well and remains on track for the final defense.

Regarding handling corrections, Sweden's structured approach requires candidates to submit a final version of their dissertation before the public defense, formally presented through a tradition known as "nailing." This practice involves displaying the thesis for public viewing before the defense, symbolizing a significant milestone in the doctoral journey. During public defense, the opponent, usually the first to speak, provides rigorous evaluation, ensuring the dissertation is thoroughly assessed.

In Brazil, the process is more iterative. Following the qualifying exam, candidates are typically given significant time to revise their research based on the feedback received. The advisory committee reviews these revisions, and only after all necessary changes are completed is the final defense scheduled. The final defense in Brazil is a public event where candidates present their work, usually starting the discussion themselves (Verhine, 2008). Unlike in Sweden, there is no specific opponent role, but all the

reviewer members do that role. After that, there is a round of discussion starting with the external reviewers and finishing with the internal reviewers.

In my opinion, allowing students to revise their thesis after the final defense, as practiced in Brazil but not commonly in Sweden, is highly beneficial. This practice provides an opportunity to identify and address any remaining issues at a crucial stage, ultimately ensuring a more refined and higher-quality final document. Additionally, leading and presenting your work during the final defense is advantageous for the candidate, providing valuable experience in public speaking and communication. It is also worth noting that the opportunity to revise, present, and describe the work represents key skills frequently utilized in conference publications, demonstrating the significance of these learning steps in a candidate's academic and professional development.

The comparison of PhD qualification and presentation milestones between Sweden and Brazil highlights significant differences in structure and processes that impact candidates' experiences and outcomes. Sweden's approach emphasizes a series of formal milestone seminars, providing structured opportunities for feedback and evaluation, ensuring candidates are well-prepared for their public defense. This system provides continuous progress and rigorous evaluation, particularly at critical junctures such as the mid-point review. Conversely, Brazil's process is characterized by fewer formalized milestones, granting candidates more autonomy in managing their research timelines. While this flexibility allows for iterative development based on feedback, it may lead to less structured guidance. Both systems reflect distinct educational philosophies, shaping how candidates navigate their doctoral journeys and prepare for their final defenses. These differences offer insights for potential improvements in both systems.

Conclusion

The comparative analysis of PhD programs in Sweden and Brazil highlights distinct approaches to doctoral education that reflect varying priorities and support structures. In Sweden, treating PhD candidates as employees—with a structured salary and comprehensive benefits—significantly enhances financial stability and facilitates professional development opportunities (Brodin et al., 2020). The rigorous evaluation process, which requires a well-prepared dissertation before the public defense, upholds high academic standards and ensures candidates are well-prepared for their future careers. However, PhD candidates in Sweden typically balance their research with additional responsibilities, such as teaching or assisting in university projects, which also present time management challenges.

Brazil's scholarship-based model provides financial support through stipends yet lacks the employment benefits of formal positions. This system offers flexibility in research and qualification, allowing candidates substantial time for revisions before final submission. Brazil's flexible PhD system provides autonomy but may limit academic engagement and professional integration due to fewer formalized interactions (Verhine, 2008). In contrast, Sweden's structured approach, with regular milestone seminars and feedback, ensures continuous professional development and better prepares candidates for integration.

These differences illuminate the strengths and limitations of each system. Sweden's structured approach promotes high academic rigor and integration into the academic community, while Brazil's model emphasizes iterative refinement but may offer less stability. Understanding these contrasts can inform

efforts to improve doctoral education by identifying best practices and addressing PhD candidates' challenges in various contexts.

It is essential to recognize that this comparison presents a general overview of PhD programs across Brazil, a country characterized by diverse universities with unique rules and conditions. Consequently, the descriptions may not fully encompass the variations across the nation. For instance, institutions in economically developed regions or those backed by robust funding agencies, such as FAPESP in São Paulo, may offer more favorable working conditions and financial support to their PhD candidates. Universities like the University of São Paulo (USP) have a history of more consistent financial backing, leading to variations in aspects of the scholarship model, including stipend amounts and available resources. Therefore, while this comparison aims to present an overview of doctoral education in Brazil, specific conditions may differ based on the institution and its funding sources.

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