

**EVALUATION OF HIGHER EDUCATION: REFORM OF THINKING IN THE
ARCHITECTURE AND URBANISM COURSE**

***AVALIAÇÃO DA EDUCAÇÃO SUPERIOR: REFORMA DO PENSAMENTO NO
CURSO DE ARQUITETURA E URBANISMO***

***EVALUACIÓN DE LA EDUCACIÓN SUPERIOR: REFORMA DEL PENSAMIENTO
EN EL CURSO DE ARQUITECTURA Y URBANISMO***



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ABSTRACT: With the objective of reaching the quality in higher education, the Brazilian government implemented the National Higher Education Assessment System (SINAES), which qualifies graduation courses in a conservative way. At the same time, many universities are characterized by the adoption of the complexity vision as basis for the education transformation. In this context, this article aims to analyze the impacts of the evaluation promoted by SINAES in graduation courses whose education experiences have relation with transformative pedagogical movements. The research, that used methods of documental and historical analysis and that has as conceptual basis the Edgar Morin's paradigm of complexity, revealed that SINAES doesn't consider innovative approaches aligned with the current needs, and that experiences such as the one of the course of Architecture obtained positive results. Therefore, it is important to rethink the evaluation systems, incorporating complexity theory for an including vision of higher education.

KEYWORDS: Complexity. Evaluation. SINAES. Architecture and Urbanism.

RESUMO: Com o objetivo de alcançar a qualidade no ensino superior, o governo brasileiro implantou o Sistema Nacional de Avaliação da Educação Superior (SINAES), que qualifica cursos de graduação de maneira conservadora. Paralelamente, muitas universidades se caracterizam pela adoção da visão da complexidade como base para a transformação educacional. Nesse contexto, o objetivo deste artigo é analisar os impactos da avaliação promovida pelo SINAES em cursos de graduação cujas experiências educacionais estão vinculadas a movimentos pedagógicos transformadores. A pesquisa, que utilizou métodos de análise documental e histórica e teve sua base conceitual no paradigma da complexidade de Edgar Morin, revelou que o SINAES não considera abordagens inovadoras alinhadas com as necessidades atuais e que experiências como a do curso de Arquitetura obtiveram resultados positivos. Conclui-se, portanto, a importância de repensar os sistemas de avaliação, incorporando a teoria da complexidade, para uma visão mais abrangente da educação superior.

PALAVRAS-CHAVE: Complexidade. Avaliação. SINAES. Arquitetura e Urbanismo.

RESUMEN: La evaluación para lograr la calidad en la educación superior ha sido el objetivo del gobierno brasileño al implementar el Sistema Nacional de Evaluación de la Educación Superior (SINAES), lo cual cualifica conservadoramente los cursos de grado. Al mismo tiempo, muchas universidades se caracterizan por adoptar la visión de la complejidad como base para la transformación educativa. En ese contexto, el objetivo de este artículo ha sido analizar los impactos de la evaluación de la educación superior promovida por el SINAES en los cursos de grado, cuyas experiencias educativas están vinculadas a movimientos pedagógicos transformadores. La investigación que ha utilizado métodos de análisis documental e histórico, y que tiene su base conceptual en el paradigma de la complejidad de Edgar Morin, revela que el SINAES no considera abordajes innovadores alineados con las necesidades actuales y que experiencias como la carrera de Arquitectura y Urbanismo, han logrado resultados positivos. Por lo tanto, se concluye lo importante que es repensar los sistemas de evaluación, incorporando la teoría de la complejidad para una visión más global de la educación superior.

PALABRAS CLAVE: Complejidad. Evaluación. SINAES. Arquitectura y Urbanismo.

Introduction

When it comes to the quality of higher education, the challenges and opportunities are numerous, both for educational institutions and public authorities. Low learning results, student disinterest, inadequate infrastructure and low teacher engagement are eminent concerns for both. Seeking quality in higher education, we have, on the one hand, the Brazilian government, which, through its Ministry of Education, established in 1996 the National Higher Education Assessment System (SINAES) (Brazil, 2004), which, based on a conservative view of education, implemented a set of guidelines aimed at strategies for evaluating the quality of higher education throughout the national territory; and, on the other, the challenge of some universities which, by redefining their teaching based on other views, such as complexity, end up not aligning themselves with the assessment model promoted by SINAES.

The current historical context demands the training of competent, ethical, loving and creative individuals and professionals, with a global vision of the world, attentive to sustainability and with social and civic responsibility. Faced with this reality, the objective of this article is to analyze the impacts of the evaluation promoted by SINAES on undergraduate courses whose educational experiences are linked to pedagogical movements that promote an education compatible with the needs of the contemporary world. We therefore seek to answer the following problem: what are the impacts of the SINAES evaluation on higher education courses, specifically, on the Architecture and Urbanism course at the Pontifical Catholic University of Paraná (PUCPR), whose educational essence seeks to meet a vision based on complexity?

Because this is a topic that has not been much investigated and due to the nature of the analyzes carried out based on the essence of the experiences, both due to the implementation of SINAES and the movement of changes in teaching and learning that the course has been undergoing, we opted for qualitative and exploratory research, which presents an overview supported by documentary analysis. “In qualitative research, especially in those carried out within the scope of the so-called applied social sciences, such as education and administration, documentation is normally used with the purpose of corroborating and valuing evidence from other sources” (Gil, 2021, p. 224, our translation).

The documentation and conceptual basis selected to carry out the analysis proposed here are of three distinct natures: (i) regulatory documents, which address the guidelines for evaluating higher education in Brazil, essential for understanding the criteria and procedures used by SINAES and educational regulatory bodies; (ii) conceptual basis, based on the

complexity paradigm advocated by Edgar Morin (Morin, 2015), with the purpose of establishing the relationship between complexity and the teaching and learning proposal of the Architecture and Urban Planning course at PUCPR; (iii) historical documentation, which reports on the educational transformation processes of the aforementioned course since 2014, providing a solid basis for the description of this experience.

With the aim of identifying the impacts of the evaluation proposed by SINAES on the Architecture and Urbanism course at PUCPR, a synoptic table was developed categorizing the facts and data obtained through the analysis of the aforementioned documents, relating them to the conservative pedagogical practices recommended by SINAES and the complex pedagogical practices adopted by the course in focus. This categorization will be subsequently analyzed, highlighting the fundamental differences and pointing out the existence of incompatibilities between these two educational models.

SINAES: higher education evaluation system in Brazil

It was through Law No. 10,861/2004 that SINAES was established, aiming to improve the quality of higher education. During the first years in force, the Special Assessment Committee (CEA) prepared documents and guidelines to prioritize the regulatory effects of assessment, taking into account external assessment, self-assessment and the assessment of higher education courses.

To address the advances that SINAES has brought to higher education, it is first necessary to rescue the concept of educational evaluation, which constitutes a procedural evaluation that aims at the continuous improvement of education. When it comes to the evaluation of Brazilian higher education, the Federal Constitution delegated to the State the powers to authorize the opening of courses, as well as to evaluate their quality, however, in addition to the complexity of the evaluation, it is essential to understand that different realities coexist in the country. Given this, SINAES' proposal was relevant in paying attention to fundamental aspects, such as: (i) diversity of higher education institutions; (ii) regional differences; (iii) variation in typologies and methodologies used; (iv) economic, social and cultural inequalities among students. To encompass this complexity, the law provides for assessment through three assessment procedures: the higher education institution's self-assessment, the external assessment carried out by the Ministry of Education and the National Student Performance Exam (Enade) (Brazil, 2004).

Conceptually, the SINAES law proposal characterizes a major advance in terms of public policy aimed at higher education, however, in practice, the operationalization of this assessment takes on an unfeasible proportion, considering a contingent of 8.6 million students enrolled in higher education courses. degree in the country, according to the Higher Education Census carried out by the National Institute of Educational Studies and Research Anísio Teixeira (Brazil, 2020). Faced with this difficulty, the Preliminary Course Concept (CPC) and the General Course Index (IGC) were created in order to reduce in-person external assessments by 70% for institutions with low indexes (1 or 2).

As a consequence, Enade took on an unreasonable scale, as its grades end up generating, via mathematical models, provisional indices that result in a *ranking* of higher education institutions, a fact that, in practice, results in an unfair classification, which sometimes penalizes universities and their students, as *on-site* assessment does not always occur. This methodology ends up weakening the SINAES evaluation, which receives severe criticism regarding its superficiality and fragility.

Enade had its first edition in 2004 and its results are published by the Enade Concept, composed of the results obtained by students, organized on a five-level scale. Although the exam continued to be highlighted in the evaluation system, the dissemination of its results did not have as much impact in those years as proposed by Provão, an old evaluation instrument implemented in 1996, during the first term of Fernando Henrique Cardoso's government, due to the loss of centrality of evaluation among ministerial policies. In the second government of Luís Inácio Lula da Silva, the evaluation of education underwent significant changes, mainly with the Education Development Plan (PDE). As for the changes, one of the most significant was the development of the system supervision function carried out by the Ministry of Education, which focused on using the Enade results as guides for carrying out *on-site visits* by experts, sent by the ministry for verification. In this way, the quantitative trend of the evaluation was resumed, as well as the rankings were returned.

Regarding the CPC and IGC, we highlight that they were established through a ministerial order, generating administrative rules not enshrined in law. The CPC, not being a concept created by law, is not valid to replace the concept of course, established by the SINAES law; This is a provisional indicator used to qualify educational institutions, consisting of Enade results and inputs “with influence on the quality of courses”, such as teaching qualifications, work regime, teaching planning and infrastructure, information obtained from registration of INEP teachers and student responses to the Enade socioeconomic questionnaire. It changed the

implementation of SINAES, limiting *on-site* visits to courses that obtained a preliminary score lower than 38, generating a reduction from 3,000 planned visits per year to just 1,800 (Brasil, 2020).

The IGC cannot be considered a concept or quality indicator of any higher education institution in the federal education system, nor is it a concept, but an index that does not correspond to the quality of the institution. Its creation consolidated the international metric trend of using indicators, with the index being published in the form of a *ranking* of institutions. In 2008, this was done for the first time by the Ministry of Education as a government body. Since the 2009 edition, in addition to the return of comparisons between institutions and ranking, Enade is no longer a sample but a census, in particular, using the indicator generated by Provão.

In order to understand whether the creation of SINAES truly became an advancement policy for Brazilian education, Table 1 classifies positive and negative aspects arising from the system's proposal.

Table 1 – Positive and negative aspects of SINAES

Positive aspects	Negative aspects
<ul style="list-style-type: none"> - The SINAES law is the only legal instrument to evaluate institutions and their undergraduate courses. - Implementation of student performance assessment. - Establishment of the institutions' own Assessment Committees. - As it was implemented, adjustments were made to the initial conception of SINAES. - Institution of institutional self-assessment. - The data generated by SINAES serves to support decision-making. 	<ul style="list-style-type: none"> - Loss of university autonomy in the institutional evaluation process. - The SINAES law is a structuring axis of the pseudo-reform of higher education; introduced, without defining, the privatizing concepts of social responsibility and financial sustainability. - The evaluation methods are superficial, the indicators are fragile and become absolute truths, which diverges from new ideas and paradigms for the training of professionals and citizens. - It is not aligned with university autonomy – didactic-scientific and administrative dimensions – provided for in the Brazilian Federal Constitution. - Assessments are focused on punitive rather than constructive measures. - Difficulty in training the evaluators who make up the visiting committees. - Enade results are being used to qualify Brazilian higher education institutions, but they do not reflect their realities.

Source: The authors (2022)

On the other side of this context, there are universities committed to renewing teaching, refusing to follow this traditional Cartesian model, which underpins the SINAES evaluations,

seeking to value an education that promotes critical, ethical, inclusive and attentive to the diversities and demands of society.

Conceptually, an undergraduate course must be oriented towards training qualified professionals, with a high technical level, but also autonomous, ethical and collaborative people and, in particular, agents of transformation in society. Contemporary training needs to take into account the importance of building new structures of thought, new intellectual tools and recognizing that the completeness of a professional's training must permeate human issues, also promoting dialogues between education and life, between individual and context.

Within this context, there are innovative paradigms, of which we highlight the complexity (Morin, 2015), understood as a paradigm that proposes overcoming the reductionist approach, in the search for reconnecting knowledge. To this end, a reform of thinking is necessary, which points to an integrated vision of the whole and the parts, which can become a strong promoter of transformative and enriching educational proposals.

The paradigm of complexity is at the essence of teaching and learning Architecture and Urbanism

Experiences aimed at the quality of teaching in higher education, experienced in the Architecture and Urban Planning course, and many other important renewal movements in the education scenario make us conclude how urgent it is to leave rationality and empiricism, so characteristic of paradigms who promote the separation of the “human” dimension from the “technical” dimension.

Integrating these dimensions is not an easy task, as the human perspective requires technical capacity to be implemented; on the other hand, technical capacity presupposes the human perspective to have meaning, purpose and contextualization. Based on the assumption that we can evolve in all possible directions and connect technical issues to those of humanity, involving in educational processes all dimensions in which man is capable of acting, the complexity paradigm emerged.

What is complexity? At first glance, complexity is a fabric (complexus: what is woven together) of heterogeneous constituents inseparably associated: it poses the paradox of the one and the multiple. Secondly, complexity is effectively the fabric of events, actions, interactions, feedback, determinations, chance, which constitute our phenomenal world (Morin, 2015, p. 13, our translation).

In complexity, the material universe is seen as a dynamic web of interrelated elements, none more important than the other. Science, in this new paradigm, never offers a finished and

definitive understanding, as all scientific conceptions and theories are limited and approximate (Capra, 1996). Furthermore, according to Moraes (2021), the view of complexity is essential for the construction of knowledge by the subject, based on their relationship with the context, with reality, with culture, based on the problematization of experienced situations and the systematization of knowledge in an integrated way.

The concept of complexity is directly linked to the essence of the architect and urban planner's activity, which is described as the art of conceiving, creating and organizing spaces for man that meet their needs and promote, in society, an improvement in the quality of life, the preservation of the environment and its cultural heritage, contributing to the formation and transformation of more human norms and values. Professional practice presupposes an ability to visualize, imagine and create your actions in advance in space, planning their representation in the most diverse forms, providing their understanding, interpretation and use by the community.

The architect, as an interpreter of new scientific, technological and social paradigms, is obliged to constantly update knowledge and information, in order to develop an accurate critical sense of reality, to propose more appropriate solutions for each moment in continuous environmental transformations. The architect must be a technical-humanist capable of responding to the social demands of his time and be prepared to face the transformations of reality and its new needs.

The idea of totality from the perspective of complexity, presented by Morin (2015), encourages education to strongly add the dimension of human praxis, so that the production and use of complex knowledge are naturally inserted in the process of knowledge construction itself. Therefore, we can affirm that complexity is at the soul of “doing” architecture and its concepts must form the essence of its teaching and learning.

The training of architects and urban planners is part of complexity when it promotes the vision of totality, global, complex, as well as when it proposes the reconnection of knowledge, embracing the individual in their multiple dimensions and considering the individual-species-society interrelationship inseparable. This training must constantly promote dialogues between education and life, teaching and learning, individual and context, educator and student, in addition to an educational proposal aimed at promoting strategies that articulate learning with perceptions, emotions, intuitions and reality.

The university, in this context, has a fundamental role, because, according to Morin and Díaz (2016), it is where a process of transformation of thought and education can begin,

generating knowledge, developing research and science and enabling professional guidance, as well as citizenship, ethics and life training. Therefore, pedagogical practices in Architecture and Urban Planning courses must be based on a new way of thinking about knowledge production, integrating social, cultural and professional needs, without leaving aside relevant issues, such as those highlighted in PUCPR (2018), which include:

- a) The importance of continuing to comply with the National Curricular Guidelines and the guidelines of the professional councils for each class. The curriculum continues to be structured with a focus on training the full architect, capable of working in the different scopes and scales of Architecture and Urban Planning activities: the building, urban and natural space; the public and the private; the individual and the collective. This involves the ability to analyze, conceptualize, plan, design, direct, execute, teach and research spaces – built or not – intended for human activities and needs, always respecting the characteristics of the environment in which it is located.
- b) Encouraging processes and experiences that promote relevant and significant production, as well as the integration of knowledge by people, prioritizing the relationship between teachers and students and, mainly, dialogue between peers – students from all periods of the course.
- c) The adoption of methodologies that promote maximum integration between theoretical foundations and professional practice, inserted in a contemporary economic, social and political context, as a paradigm for training the professional of the future.
- d) The development of skills directly related to the professional responsibilities conferred on the architect, without distancing itself from the appropriations of space and its various forms of interaction with the environment: living, circulating, working, producing, developing leisure, worshipping the body and spirit, respecting the past, produce the present and prepare the future.

It is important to establish a collective learning process that promotes students' autonomy, considering them as subjects of the process, together with their teacher, both having the possibility of developing creativity, research and the experience of citizenship. This process will lead the student to fully understand the architectural process and see the results, without leaving aside the creative issue. Architectural inventiveness involves not only the deduction of solutions, but also the synthesis of logic and intuition, integrated with instrumental, aesthetic, affective and other components. The vision of the whole, integration, transmits to the academic

a sense of coherence in their studies, a sense of purpose, of meaning, of interconnection with what they learn.

The teacher, by improving his/her pedagogical practices, in addition to “knowing architecture” and “knowing how to do architecture”, broadens his/her horizon to “knowing how to teach architecture”. The learning process in areas that involve creativity depends on an articulate, critical teacher, with full mastery of the content and who encourages his/her student to “learn to learn”. Expanded learning experiences, not structured only in the predominant discourse of teachers, gain dynamism, being able to develop, at the same time, practical, reflective, theoretical, historical and technical activities.

PUCPR Architecture and Urbanism Course: vision of complexity as a basis for transforming and updating teaching and learning

Educate for the future, educate to give meaning to everyday actions, educate for responsibility, solidarity, generosity, educate for love and peace.

Understanding that the act of educating is focused on what really matters in the world, many universities have been redefining and updating their role, adopting pedagogical principles that encourage their students to become subjects capable of acting in a civic manner, taking a leading role in creating a better future for Humanity. The university must be open to incorporating and following the rapid changes in the world, without losing focus on training people prepared to follow these new realities, with competence and resolution to the adversities that are presented to them.

According to Spricigo (2016), the challenge of education is to help the individual learn to think, initially about themselves (self-knowledge), and then think about what they actually learned; In this way, the act of educating moves away from Cartesianism and becomes closer to practices oriented towards the formation of subjects who are agents of their own educational process. In this context, with the aim of presenting an experience in higher education, which transformed and updated teaching and learning, based on a complex approach, we bring the experience of the Architecture and Urban Planning course at a university that placed the quality of graduation as an institutional priority.

With this vision, we took as a basis for analysis the Pedagogical Project of the Higher Education Course in Architecture and Urbanism, since we wish to share the experience of a course that has been seeking a paradigmatic change, with the development of educational strategies elaborated collectively with the participating teachers, resulting in the course

development plan, which presents a proposal that we believe is consistent with the discourse of resignification and updating of higher education courses in an innovative vision. Considering the ethical aspect of the research, we received institutional authorization to name the university involved.

This story began in 2014, when the then rector of PUCPR launched a challenge to the academic and management community: to give the university more versatility and agility, to keep up with changes in the world, science and technology, without distancing itself from the mission of training ethical, conscious and human professionals.

As part of the strategy for this cultural and educational change, the Undergraduate Development Plan (PUCPR, 2015) was created, a document constructed collaboratively, with the purpose of preparing and strengthening the university for future challenges. Among the objectives of this plan, the following stand out: (i) comprehensive training guided by the institutional mission and values, covering the technical-scientific, humanistic, social, ethical, cultural and political dimensions; (ii) the development of a systemic view of knowledge; (iii) the demand for high levels of performance from teachers and students in search of excellence in the teaching and learning process; (iv) the development of students' sense of belonging in relation to the university; (v) the search for an outstanding academic reputation (PUCPR, 2015).

With the purpose of engaging the university community in view of the necessary and urgent cultural change, five guiding principles for the teaching and learning processes in higher education were proposed, developed and implemented: autonomy, dedication, cooperation, critical sense and honesty (PUCPR, 2015), understanding that autonomy promotes the discovery of people as individuals; dedication is a daily exercise in the search for quality knowledge; cooperation puts us in search, in direction, in encounter with the other; critical sense promotes the full development of thought; and honesty offers us a basis for thinking about non-negotiable values, awakening interest for the collective.

Imbued with the mission of building, with the university, the Undergraduate Development Plan and, specifically, ensuring the implementation of the guiding principles for graduation, the Architecture and Urbanism course developed its guidelines, goals and strategic actions, based on an analysis diagnostic, structured based on three important questions: (i) who we are; (ii) what challenges us; (iii) what we need to do.

In the search for answers to these questions, data was collected on: attributes for which the course is recognized; student and graduate profiles; pedagogical proposal; teaching and learning methodologies; regulation; employability; demographic contexts; relationships,

among many others. The main purpose of this diagnosis was to create indicators for proposing short- and medium-term course guidelines for its own development plan.

The data collected was categorized and analyzed following the university's guidelines. At the end of the analysis process, two aspects stood out, the first related to the methodological transformation of teaching and learning and the second related to the priority of improving the performance of students on the Enade course.

Based on this context, guidelines were created aimed at methodological advances for excellence in the teaching and learning process, oriented towards: emphasis on design activity; horizontal and vertical integration, promoting integrative projects; the use of active methodologies; the promotion of the guiding principles of graduation (autonomy, dedication, cooperation, honesty and critical sense), linked to the exercise of professional skills; and the review of the course conclusion work regulations, understood as the crowning achievement of the course, in which the design activity is a synthesis activity, inherent to the skills of the professional architect (PUCPR, 2016).

As the most significant result of the process of developing and implementing the guidelines created for the Undergraduate Development Plan, both at the university level and at the Architecture and Urban Planning course, there was an indication of the urgency of updating teaching and learning methodologies, as well such as the inevitability of reviewing the structure of curricular matrices. With this scenario in mind, a new challenge was launched to the academic community: review and launch, in 2018, new curricular matrices for all courses at the institution, providing for the use of active methodologies and the adoption of competency-based teaching.

Meeting this new challenge, the Architecture and Urbanism course at PUCPR had its curricular matrix restructured in 2018, based on the university's guidelines and the alignment with the skills intrinsic to the profession, which directly reflect on the full training of the architect and urban planner. The reframing of the term “skills” was used as a reference, in a complex and broader vision; according to Vosgerau *et al.* (2017, p. 10, our translation),

[...] competence is the mobilization of knowledge, skills and attitudes to act in complex situations. In this way, teaching through skills means that the central focus of the teaching and learning process is not the transmission of content, but the facing of real-life problems which, in itself, are a source of complex problems that offer the best and most important chances of generating and developing knowledge.

The fundamentals of learning in a competency-based approach are understood by Scallon (2015) as a global quality of the person, which integrates knowing-knowing, knowing-

how and knowing-being, based on theoretical, conceptual knowledge and practical procedures, starting from an integrated set of skills. Thus, based on the concepts of competence-based teaching in a complex vision, the course's curricular matrix was created focusing on the comprehensive training of the full architect, as a person and professional, qualified to work in the different areas and scales of Architecture and Urbanism activities: the building, urban and natural space, public and private, individual and collective, which involves skills such as analyzing, conceptualizing, planning, designing, directing, executing, teaching and researching spaces intended for human activities and needs, always respecting the characteristics of the environment in which it operates.

As pointed out in PUCPR (2018), these skills were interpreted and reorganized in the Course's Pedagogical Project into three major skills: (i) communicate in architecture and urbanism, using descriptive, technical and artistic elements, through appropriate forms of graphic expression and technological tools, in accordance with technical-legal standards and parameters, with autonomy, a cooperative and honest attitude; (ii) research manifestations and contexts of architecture and urbanism, considering ethnic-cultural, historical, socioeconomic and environmental aspects, in a systemic perspective, through theoretical-methodological references, with ethics and critical sense; (iii) planning in architecture and urbanism, integrating sociocultural, economic, environmental, legal and technological aspects, with creativity and social responsibility, in real and simulated situations.

All skills must be developed in order to provide shelter and assistance to man in his appropriation of space and in his various forms of interaction with the environment: living, circulating, working, producing, developing leisure, worshiping the body and spirit, respect the past, produce the present and prepare the future. The products of these actions are built or open spaces: buildings and monuments, architectural, urban and landscape complexes, urban and regional plans.

In this scenario, the Architecture and Urbanism course today has its curriculum structured with a focus on human training and professional practice, contemplating scientific and technological innovations and following the transformations and connections of the current world.

Impacts of the SINAES assessment on the Architecture and Urban Planning course at PUCPR

The analysis of the impacts of SINAES on the Architecture and Urbanism course begins with the presentation of a set of consequences arising from Enade's evaluations of the PUCPR course. These consequences were identified based on the understanding of the facts and data presented previously, in addition to the history of student performance over the last assessment cycles.

According to INEP, the performance of students from the PUCPR Architecture and Urbanism course in the 2019 Enade was evaluated with a grade of 4, representing a significant increase in relation to the grade of 3 obtained in the previous evaluation (Brasil, 2020). This result reveals that the changes promoted by the university and the course had a positive impact, largely contributing to the break with conservative pedagogical practices. This result was achieved by adopting competency-based teaching, seeking to reframe and expand the vision of designed competencies, based on the assumptions of the complexity paradigm.

The pedagogical structure of a higher education course must meet a paradigm that clearly allows the development of excellence in the training of students, leading them to demonstrate, throughout their degree, significant learning, both as people and as professionals, through production of relevant knowledge. In this sense, working for truly quality education is a valuable and rewarding goal.

However, looking at the evaluation system in isolation, the analyzes are not positive, considering that:

- a) Enade has taken on an unreasonable scale, as its scores end up generating, via mathematical models, provisional indices. The *on-site* evaluation would be a great opportunity to present the infrastructure and pedagogical advances, but, in the case of the Architecture and Urbanism course analyzed here, this has not occurred for years.
- b) Excessive time and energy are spent to coordinate the course with regulatory needs and, in this way, maintain it within the quality parameters pre-established by SINAES, which do not necessarily add value to the quality of the course.
- c) There is a temporary loss of focus on pedagogical actions to implement irrelevant strategies in the search for a good classification in *rankings*, a fact that leads to a loss of time and investments that should be allocated to projects that truly add quality and innovation to the teaching of Architecture and Urbanism.

- d) Enade presupposes an outdated assessment, originating from mechanistic, fragmented and reductionist teaching, being completely distant from what is today the pedagogical reality of the course, in addition to disregarding issues pertinent to transformative education, such as the plurality of knowledge, ethics and the human condition.

It is clear that the guidelines for evaluations of Brazilian higher education are based on pedagogical approaches focused on disciplines, characterized by static and simplified knowledge, totally antagonistic to the concepts of complexity, which presuppose a pedagogical practice concerned with the shared production of knowledge in an inseparable universe.

With the identification of the consequences of the Enade evaluations in the Architecture and Urban Planning course, we realized the antagonism between the essence of the pedagogical premises considered by the evaluation proposal for higher education courses in Brazil, in this case, conservative and technical, and the precepts of complexity, with emphasis on reconnecting knowledge and welcoming the individual in their multiple dimensions (Morin, 2015), as in the case of the Architecture and Urban Planning course.

When considering the context presented, the importance of making a comparison between the conservative pedagogical practices of SINAES and the complex pedagogical practices adopted in the Architecture and Urbanism course at PUCPR, based on the thinking of Morin (2015), becomes evident. The purpose of this comparison is to identify the incompatibilities arising from these two approaches and, consequently, show the impacts of the SINAES assessment on the aforementioned course.

To this end, we have organized a synoptic table that lists the main characteristics of each approach in relation to teaching methodology, assessment, student profile, teacher profile and university profile. This is because the structured approach offers an objective and systematic analysis, facilitating the understanding of the crucial differences between the two pedagogical practices, with a view to supporting subsequent analyses.

Table 2 – Comparison of conservative pedagogical practices and complex pedagogical practices, based on Morin (2015) and Morin and Díaz (2016)

	Conservative pedagogical approaches	Complex pedagogical approaches
	SINAES	Architecture and urbanism
Teaching methodology	Booklet, emphasizes the reproduction of knowledge, the correct answer and the faithful reproduction of the content; lectures with repetition of exercises.	Seeks the continuity of knowledge and interdisciplinary learning and promotes interactive communication between disciplines; promotes citizen training and takes ethical training

		into account; pedagogical practice focused on the systemic approach.
Assessment	Done through objectives; measurement made by a repetitive exercise; performing the technique; emphasis on memorization.	Gradual and continuous; aims at the process as a whole.
Student profile	Conditioned and uncritical; difficulty in producing text; learns through stimulation and reinforcement; requires prompt and correct answers.	Encouraged, attentive and autonomous; explores experiences and searches for meanings; seeks a vision of the whole and develops multiple intelligences.
Teacher profile	Deals scientifically, rationally, with society's problems; technician who selects, organizes and applies a set of means that guarantee the efficiency and effectiveness of teaching.	A vision of the whole; encourages divergent thinking as part of the creative process; demanding, reflective, sensitive, engaged and democratic critic; permeates interdisciplinarity.
University profile	Trains students for the social system; seeks skills for the job; modeling of human behavior.	Egalitarian, accepts differences; perceives education as a gradual and continuous process that lasts a lifetime; promotes transpersonal education.

Source: The authors (2022)

From the comparisons of the synoptic table, we can conclude that we are talking about totally different realities. On the one hand, we have the good intention and effort of the evaluations recommended by SINAES, which aim to improve the quality of Brazilian higher education, but the analysis allows us to realize that the characteristics are based on outdated pedagogical concepts and tied to a very difficult operationalization. On the other hand, we see universities and higher education courses that move forward by establishing a new way of thinking about knowledge production, adhering to the concepts of complexity as a way of achieving a pedagogical practice committed to the shared production of knowledge.

Based on this scenario of dualities, we can highlight relevant negative issues, which demonstrate incompatibilities between how the evaluation of Brazilian higher education is proposed and the perspectives for higher education in the future, namely:

- a) Evaluation mistakes: unfortunately, what we have are not just obstacles to an evaluation that is distant from the object to be evaluated, but rather serious conceptual errors that fail to realize that education cannot be measured by indices that, in addition to being superficial, are far from the mission of educating, of training human beings capable of responding to the challenges brought about by any and all crises that the world may experience. The performance of SINAES (Enade, CPC and IGC) evaluation procedures has generated a series of discomforts in the academic

environment, both due to the fact that its results are used to qualify and rank universities and courses and because these results result in punitive measures, far from contribute to improving teaching in higher institutions. The effects of these evaluations end up establishing a culture of classification based on the superficiality of the methods used in the evaluations and the fragility of the indicators, as they generate numbers presented in a decontextualized manner, which unfortunately have become absolute truths.

- b) Conceptual errors: education is undergoing transformation and can no longer be thought of in a Cartesian way and measured by metric indicators that disregard the issues of man and broad and complex knowledge. It is impressive that education that aims to transmit knowledge is blind to what human knowledge is, its devices, its illnesses, its difficulties, its tendencies to error and illusion, and is not concerned with making known the process of what it means to know.
- c) Crisis in the Brazilian educational model: the Brazilian educational model, in general, lives in the past, remains centered on a conception of the subject closed in on himself, both from the point of view of his rational seclusion and his indifference and withdrawal in the face of the countless changes in the contemporary world. The biggest challenge for changing the educational model is being able to overcome pedagogical practices that only transmit content, so that a teaching model is truly new, in which the student needs to be considered an agent of their own educational process. According to Spricigo (2016), he must learn to think, firstly about himself (reflection) and about his agent (self-knowledge), and then think about what he learned and how to apply this knowledge in a competent, ethical and critical way.

The future of higher education therefore needs to aim for the training of human beings, autonomous, cooperative, dedicated, critical and honest subjects and professionals. The act of educating involves, above all, awakening principles so that the subject is capable of acting in a civic manner, with a view to social transformation and the good of the entire community of life on the planet.

Final remarks

Brazilian education, in general, and higher education, specifically, need strategic guidelines that guarantee the quality of teaching. To this end, the evolution of the proposed evaluation models is urgent and necessary, going beyond the concept that an evaluative act is an element of power, punishment or control, with a view to reductive and one-dimensional contexts. We need to evolve towards a multidimensional evaluation process, which considers the break with conversational models, seeking a true reform of thought, as in the case presented in the Architecture and Urban Planning course.

It is a fact that one path to this transformation is to embrace the contributions of the complexity paradigm, in a possible reformulation of evaluation systems in Brazil. By absorbing the vision of the whole disseminated by Morin (2015), from the perspective of complexity, assessment systems will have the important role of encouraging higher education to add the dimension of human praxis, so that the production of complex knowledge is naturally inserted in the process of knowledge construction itself.

The paradigmatic changes signal the importance of recognizing the dialogues between education and life, teaching and learning, individual and context, the affective relationship between educator and student, translating into the real quality of teaching, which articulates learning with perceptions, emotions and intuitions, arising from problematizations and demands presented by society. In this context, the university cannot fail to fulfill its mission to fit into evaluation systems. As it is characterized by an immense complexity of factors, it must listen to the voices of the streets, professional categories, society and, thus, supply itself with facts and data about the real challenges of the world. In other words, the university has an urgent need to overcome static, passive and repetitive focuses, and must act critically, in harmony with the movements of humanity. Complexity is the essence of the university.

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