ARTIGO

ACTIVE METHODOLOGIES AS TRANSCENDENTAL MEANING OF MEDICAL TRAINING CURRICULA

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ABSTRACT: The objective of this work is to show how a curriculum is signified by post-critical theories, and from this specific method of interpretation, we try to problematize the discourses that stand out in the official medical curriculum of a public institution of higher education, which is based on the use of active methodologies. To reach this goal, we base our framework on post-critical studies on curriculum and analyze the documents that guide this curriculum. The problematization exercise was carried out using Foucault's discourse analysis. The result yielded the possibility of understanding the curriculum that was analyzed as well as understanding it as an instrument involved in a process of "revelation" of methodologies and subjects considered ideal. We define the "doctor" as a product of the dispute between the various discourses present in this curriculum and show how this professional is positioned. We conclude this work by explaining some key points of curricular studies from the post-critical perspective with the goal of supporting future research.

Keywords: Curriculum, Active Methodologies, Medical Education.

METODOLOGIAS ATIVAS COMO SIGNIFICADO TRANSCENDENTAL DE CURRÍCULOS DE FORMAÇÃO MÉDICA

RESUMO: O objetivo deste trabalho é mostrar como um currículo é significado pelas teorias pós-críticas, e a partir desse modo específico de interpretação, buscamos problematizar os discursos que se sobressaem no currículo oficial médico de uma Instituição de Ensino Superior pública que está baseado no uso das Metodologias Ativas. Para o alcance desse objetivo, fundamentamos nosso referencial nos estudos pós-críticos sobre currículo e analisamos documentos que orientam esse currículo. O exercício de problematização foi realizado mediante o emprego da análise de discurso de inspiração foucaultiana. O resultado alcançado foi a possibilidade de enxergar o currículo analisado para além de um instrumento envolvido em um processo de 'revelação' de metodologias e de sujeitos considerados ideais. Significamos o/a médico/a como efeito da disputa entre diferentes discursos presentes nesse currículo e mostramos como esse/a profissional é posicionado/a. Concluímos esse trabalho explicitando pontos-chave de estudos sobre currículo na perspectiva pós-crítica, visando subsidiar futuras investigações.

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METODOLOGÍAS ACTIVAS COMO SIGNIFICADO TRANSCENDENTAL DE CURRÍCULOS DE FORMACIÓN MÉDICA

RESÚMEN: El objetivo de este trabajo es mostrar cómo un currículo es representado por teorías poscríticas, y desde este método específico de interpretación, tratamos de problematizar los discursos que se destacan en el currículo médico oficial de una institución pública de educación superior, que se basa en el uso de metodologías activas. Para alcanzar este objetivo, basamos nuestro marco en estudios poscríticos sobre el plan de estudios y analizamos los documentos que guían este plan de estudios. El ejercicio de problematización se llevó a cabo utilizando el análisis del discurso de Foucault. El resultado arrojó la posibilidad de comprender el currículo analizado, así como entenderlo como un instrumento involucrado en un proceso de "revelación" de metodologías y materias consideradas ideales. Definimos al "doctor" como un producto de la disputa entre los diversos discursos presentes en este plan de estudios y mostramos cómo se posiciona este profesional. Concluimos este trabajo explicando algunos puntos clave de los estudios curriculares desde la perspectiva poscrítica con el objetivo de apoyar la investigación futura..

Palabras clave: Currículo, Metodologías Activas, Educación Médica.

INTRODUCTION

In the last two decades, discussions in the field of medical education in Brazil have emphasized issues such as curriculum proposals and pedagogical models. Nunes and Nunes (2005) explain this by stating that education today requires an openness to change and review of paradigms. The adoption of this view is justified by researchers in the area by the need to overcome a traditional model of education, based mainly on the Flexnerian paradigm. It is worth remembering that this paradigm, which led to the 1968 university reform, was responsible for promoting learning focused on the transmission of knowledge by the teacher and making hospital-centered teaching mandatory, formalizing the separation between basic and professional cycles, and incorporating mechanistic, biology-centered, and individualizing characteristics into medical education (NOGUEIRA, 2009). As observed by Pagliosa and Da Ros (2008),

> Even if we consider his contributions to medical education very important, the emphasis on the biomedical model, disease and hospital-centered, has led to a reductionist view of medical education programs. By adopting a unicausal and biologically based health-disease model, Flexner's approach reserves little space, if any, for the social, psychological, and economic dimensions of health and the inclusion of the broad spectrum of the health care context, which goes far beyond medicine and its doctors. (PAGLIOSA and DA ROS, 2008, p. 496).

An increasing number of researchers argue that the curricular organization and the programmatic content developed in medical schools must assume an interdisciplinary proposal to overcome this fragmentation of medical education. This proposal aims at dissociating itself from "a closed and static, content-centered, biological paradigm-based curriculum, with little or no relationship between the different areas of knowledge and having a fragmented view of the human body" (CARABETTA JÚNIOR, 2016, p. 114). This discourse is justified by the statement that today "the accumulation of information is worthless if it is isolated from the ability to solve new problems that arise daily" (NUNES and NUNES, 2005, p. 180).

The recommendation that the educational objectives of these curricula should be defined according to the perspective of constructivism is added to this discourse:

> [...] with learning being considered a creation of the individuals through the relationships they establish among the pieces of information presented to them, and the interactions between this information and their previous knowledge and social environment, which implies a new educational reality with the student's action aimed at creating something new through the doing itself. (CARABETTA JÚNIOR, 2016, p. 114).

This requires a context in which learning is "active," i.e., "built by the student on the basis of dialogical interactions with the professor, colleagues, and the different content items" (CARABETTA JÚNIOR, 2016, p. 114). With this approach, the focus goes from the "simple reproduction of knowledge" to the development of skills and abilities "that must accompany the construction of socially established knowledge" (CARABETTA JÚNIOR, 2016, p. 115). Aiming at realizing these recommendations, the need for reformulating the curriculum and the pedagogical model is included in the discussions on medical education in Brazil.

It is worth noting that the justifications for this reformulation process are recurrent in the context of Sanitary Reform in Brazil, a socio-political movement that was characterized by fighting against the dictatorship and the health care provided by the medical-industrial complex. This movement contributed to the creation of a public health system in Brazil based on an expanded concept of health. Nogueira (2009) states the following regarding the creation of the Unified Health System (Sistema Único de Saúde - SUS) and its connection with the process of reformulation of medical curricula:

> The SUS was implemented with the creation of the Family Health Program (Programa Saúde da Família - PSF), which was chosen by the Ministry of Health as the initial strategy to reorient the health care model. The expansion of the PSF brought with it some conceptual challenges, such as the need for an expanded clinical practice that would integrate the biopsychosocial dimensions of illness and could promote health care through the work of a multidisciplinary team. From then on, it became evident that medical schools were not training this type of professional. Thus, it became essential to adopt measures aimed at training and qualifying this professional through the promotion of changes in medical schools so that the interests indicated by a new health care model would be met (NOGUEIRA, 2009, p. 264).

During the changes triggered by the SUS and in order to train professionals according to its principles, in 2001, the National Curriculum Guidelines (Diretrizes Curriculares Nacionais - DCNs) for Medical Schools (CNE/CES Resolution No. 4, of November 7, 2001) were established; subsequently, the National Program for Encouraging Curricular Changes in Medical Schools (Promed) and the National Program for Reorientation of Professional Training in Health Care (Pró-Saúde) were implemented with the aim of training professionals within an education model in accordance with the proposal of the new public health care system. Promed, for example, aimed at providing technical and financial support to medical schools willing to develop processes of change that would lead to "an articulation with health services, the adoption of active teaching-learning methodologies, and a critical and human training of the medical professional" (NOGUEIRA, 2009, p. 265).

Thus, both these programs and the DCNs direct their guidelines so that medical curricula adopt "methodologies that privilege the active participation of students in the construction of knowledge and the integration between the content items" (BRASIL, 2001a, p. 5). That is why the curriculum of medical schools needed to undergo changes, with "active methodologies" (AMs) being recommended. However, not all medical schools in Brazil started using AMs. The DCNs established for medical schools in 2001 were reformulated by Resolution No. 03 of the Ministry of Education on June 20, 2014, when it instituted the National Curriculum Guidelines (DCNs) for medical schools (BRASIL, 2014). By proposing objectives like those instituted in 2001, these new DCNs seemed to signal that the goal of the 2001 proposal had not been achieved.

Regarding the new DCNs, we must highlight Chapter III of the resolution, which proposes recommendations for the curriculum content and the Course Pedagogical Project (CPP) of medical schools. In Article 26, the resolution establishes that the medical school should "consider the student a subject of learning who is supported by the professor, who acts as the facilitator and mediator of the process aiming at the comprehensive and appropriate training of the student" (BRASIL, 2014, p. 12).

Items II and IV in Article 29, in seeking to ensure this approach to the professor-student relationship, recommended that (as had already been established by the DCNs in 2001) the program should "use methodologies that privilege the active participation of the student in the construction of knowledge and in the integration of content, ensuring the inseparability of teaching, research, and extension." By using methodologies considered more appropriate, the program should promote "integration and interdisciplinarity in line with the axis of curriculum development" (BRASIL, 2014, p. 12).

These new DCNs indicate that the requirements for a curriculum proposal and a pedagogical model should go beyond simple illustration (NOGUEIRA, 2009), requiring creative and pragmatic capacities from the actors involved in the educational process. As a result of this finding, teaching and learning methodologies are increasingly put into practice with the possibility of developing these competencies in students (NUNES and NUNES, 2005). In this context, many studies (ALMEIDA, 1997; LIMA JÚNIOR, 2002; MORÉ and GORDAN, 2004; NUNES and NUNES 2005; MITRE, 2008; GOMES et. al., 2009; CEZAR et. al., 2010; GOMES and REGO, 2011; and COSTA, 2016) have advocated a training regimen that incorporates AMs into the teaching and learning process of medical students. That is, these studies have reiterated the opinion that AMs are an ideal practice for the training of a professional more adapted to the medical act and to the health practices required by the DCNs of medicine.

The discourses around the AMs indicate that they are characterized as a process in which students engage in activities that require reflection on ideas and the development of the ability to use them (FARIAS, 2015). Moreover, these discourses state that a good method must be

> constructivist - based on meaningful learning; collaborative - favor the construction of knowledge in groups; interdisciplinary - provide integrated activities to other disciplines; contextualized - allow the learner to understand the application of this knowledge in reality; reflective - strengthen the principles of ethics and moral values; critical - stimulate the learner to seek to deepen the understanding of the information that reaches him/her in order to understand the limitations of these pieces of information; investigative - awaken curiosity and autonomy, enabling the learner to have the opportunity to learn to learn; humanist - be concerned with and integrated into the social context; motivational – encourage work and value emotion; challenging - stimulate the student to seek solutions (FARIAS, 2015, p. 146).

Farias (2015) states that there are several active methods of education, with Problem-Based Learning (PBL) being frequently mentioned in medical education. According to Nunes and Nunes (2005), PBL has a close relationship with John Dewey's philosophical and pedagogical assumptions, since it aims to make citizens aware of the realities they experience and engaged in transformations based on a critical sensibility.

Dewey (1959), when affirming the need to break with the attitude of merely transmitting information, with students assuming the role of passive receptacles concerned only with memorizing content and recovering it when requested (usually when taking a test) raises the possibility of increasingly using PBL in medical education. In fact, one of the crucial aspects of PBL is its student-centered educational process, which enables the student to "become mature" and acquire an increasing degree of autonomy.

The objectives of PBL were defined with an emphasis on the "development of critical thinking skills, understanding, learning to learn, and group and cooperative work" (DECKER and BOUHUIJS, 2009, p. 187). According to Putnam (2001), the educational objectives of PBL direct students to

> develop a systematic approach to solving real-life problems, using higher order skills in problem-solving, critical thinking, and decision making; acquire an extensive integrated knowledge base that can be recalled and flexibly applied to other situations; develop effective self-directed learning skills, identifying what they need to learn, locating and using appropriate resources, applying the information to the problem [....]; develop the attitudes and skills necessary for effective teamwork with others [...]; acquire a lifelong habit of approaching a problem with initiative and diligence and a drive to acquire the knowledge and skills needed for an effective

resolution; and develop habits of self-reflection and self-evaluation that allow for the honest appraisal of strengths and weaknesses and the setting of realistic goals. (PUTNAM, 2001, p. 7).

Following this line of thought, Araújo and Sastre (2009) state that, in PBL, the student starts with problems or situations aimed at generating doubts, imbalances, or intellectual disturbances, having a strong practical motivation and cognitive stimulus to evoke the necessary reflections to seek appropriate choices and creative solutions. According to Penaforte (2001), this may be aligned with the educational proposal of John Dewey.

The analysis of PBL, and the AMs in general, suggests that a medical curriculum, when based on active learning methods, can produce, through a transcendental process or the raising of awareness, a medical professional in essence, that is, a professional endowed with specific skills and abilities, such as autonomy and critical and reflective capacities. Although this is a discourse about medical training evoked by many curricula and teaching and learning practices inside and outside of medical education, we will not reproduce or reiterate it.

On the contrary, this study aims at problematizing this discourse, and, for this, we decided to analyze the official curriculum of the medical school of a public Higher Education Institution (HEI) based on the use of AMs. In order to achieve this objective, we based our analysis on theoretical references adopting the post-critical perspective of curriculum studies (especially those inspired by Foucault's thoughts). To elucidate this task, we have divided the text into four topics in addition to this introduction. For the first topic, we define a methodological path that could guide us in the problematization of discourses about a medical curriculum based on the use of AMs. In the second topic, we show how the concepts of power, knowledge, and discourse are evoked in the dynamics of a curriculum, and which meaning is attributed by the post-critical theories; then, in the third topic, we problematize the discourses that stand out in a medical curriculum based on the use of AMs; finally, in the fourth (and last) topic, we present our final considerations.

METHODOLOGICAL PATH

Our study is based on the post-critical perspective of curricular studies (especially those inspired by Foucault's thoughts). This perspective is characterized by the questioning of the "knowledge (and its effects of truth and power), the individual (and the different modes and processes of subjectivation), and educational texts (and the practices they produce and institute)" (PARAÍSO, 2004, p. 287). Adopting this problematizing attitude, we sought to analyze the discourses that stand out in the curriculum of the medical school of a public Higher Education Institution (HEI) based on the use of AMs.

By analyzing only one curriculum, we prioritized the analysis of textual documents (print and electronic) that guide the course, such as the National Curriculum Guidelines (DCNs) of Medicine (BRASIL, 2001a and 2014) and the Course Political Project of the medical school (HEI, 2017). These official documents include resources for capturing non-verbal components of events and practices. According to Flick (2009), documents are not only a simple representation of the facts because someone produced them for some purpose. Documents "should be seen as a way of contextualizing information. Rather than using them as information containers, they should be seen and analyzed as methodologically created communicative turns in constructing versions of events" (FLICK, 2009, p. 234).

The documents were analyzed using Foucault's discourse analysis. It is worth mentioning here that the concept of "discourse" already encompasses a dimension of practice, to the extent that we do not interpret them as

a pure and simple intertwining of things and words. [...] while analyzing discourses, we see the apparently strong ties of words and things breaking down and separating a set of rules proper to discursive practice [....]. It is a task that consists of no longer treating discourses as sets of signs (of significant elements that refer to content or representations), but as practices that systematically form the objects they speak of (FOUCAULT, 2005, p. 64).

By employing the concept of "discourse" to refer to the relationships that enable the process of formation of objects, Foucault (2005) provides us with an analytical tool. In this work, the use of the concept of "discourse" allowed us to analyze (through documents) how medical professionals are trained as demanded by the medical curriculum of a public HEI. In this analytical process, instead of "seeking the deepest meaning," we focused our interest on the "network of relationships that produced the essence and made it look natural," as recommended by Caldeira (2016, p. 74). Considering the documents analyzed here, this means that we focused our interest on the "network of discursive relationships" that made it possible to consider a medical curriculum based on the AMs a "salvationist" proposal, producing a medical professional considered ideal.

In this same line of thought, Paraíso (2014) states that performing a discourse analysis means "to show the rules of appearance of a discourse" (p. 38). Or even, as stated by Foucault (2015), it means "[...] to determine the conditions of its existence, to fix its limits in the fairest way, to establish its correlations with the other statements to which it may be linked, to show what other statements it excludes" (p. 97). Thus, the procedure used here was fundamental to "analytically describe" (PARAÍSO, 2014) the discourses and show what they do and produce from a medical curriculum based on the use of AMs. To this end, the discourses were analyzed as being involved in knowledge-power relations and producing meanings, practices, subjects, identities, and differences.

As proposed by Veiga-Neto (2016) the discourses were analyzed in terms of their "positivity," i.e., "in what they are capable of producing in terms of effects" (VEIGA-NETO, 2016, p. 65). When interpreting the discourses as practices that constitute us as individuals of certain types, Foucault (2005) warns that, certainly, "the discourses are made of signs; but they have more functions than just using these signs to designate things. This is what makes them irreducible to the language and the act of discourse" (p. 56). As proposed by Foucault, it is exactly these "more functions" that we emphasized in the discourse analysis of this work. In order to perform this task, it was necessary to first understand how a curriculum is signified by post-critical theories (as described in the following topic) to then problematize the discourses that overlap in the curriculum of the medical school of a public HEI.

SIGNIFYING A CURRICULUM USING POST-CRITICAL THEORIES

In order to approach a curriculum from a post-critical perspective, we take as a starting point and inspiration the concept of "social epistemology" as differing from the meanings of a curriculum thought of from the perspective of "philosophy of consciousness" (POPKEWITZ, 2008). There are two distinct paths (forms of understanding) that lead us to different concepts of how to approach a curriculum. That is, there are two forms of reasoning about historical knowledge that would be responsible for producing forms of social regulation that determine how a curriculum is organized, defining which type of knowledge should be incorporated and which should be excluded (POPKEWITZ, 2008). By "philosophy of consciousness," we mean the modern idea that knowledge derives from consciousness (and that we could develop a liberating knowledge from consciousness). This philosophy consists of "considering the way people and events change over time and focusing on the role of language in expressing and describing the direction and purposes of social change" (POPKEWITZ, 2008, p. 180).

From this perspective, language is understood as the simple transmission of the scientific, artistic, and cultural discourse to the field of education, dealing only with the question of "didactic transposition" (SILVA, 1996). From this perspective, the discourse is in continuous development, being the product of mental operations. It "has nothing to do with the relation of power, nor with the knowledge produced in these relations or with modes of subjection. The discourse does not produce the real, the individuals, or the meanings" (CORAZZA, 2001, p. 92). Thus, power and knowledge are conceived of as relations external to the discourses in the curriculum, although they are present in it. Starting from the relationship between these concepts, the curriculum is interpreted from the perspective of the "philosophy of consciousness" as an instrument involved in a process of "social reproduction" or

"revelation of the individual in its essence" (SILVA, 1996), which is similar to what Cherryholmes (1992) defined as the "dialectical nature of the curriculum."[3]

When the curriculum is problematized as being involved in the process of "reproduction," the notion that the knowledge embodied in the curriculum could be contaminated by power via ideology is emphasized (SILVA, 1996). Power could regulate the distribution of knowledge "by distorting, deviating, and misrepresenting elements of social and educational life, which in its absence could appear in their original, uncontaminated essence" (SILVA, 1996, p. 167). This process of curricular construction could result in an "alienated" individual. Otherwise, when the curriculum is considered to be involved in a process of "revelation," it is interpreted as an "operation designed to extract, to bring out a human essence that exists before language, discourse, and culture" (SILVA, 1996, p. 165). Thus, knowledge appears as a kind of antidote to power that, through the procedures of a critical pedagogy, could generate a free, emancipated, and autonomous individual (SILVA, 1996).

Such a way of interpreting the curriculum is like the understanding of many authors about what would constitute a medical curriculum based on AMs. These authors have described and prescribed curricular proposals in the area of health, specifically in medicine, based on these AMs. The results of their studies suggest that AMs would make it possible "to introduce greater efficiency in teaching and learning practices and to train more critical professionals" (ALMEIDA, 1997, p. 38). Furthermore, these studies indicates that AMs are "a new paradigm that prepares students to learn to learn and to assume a more critical attitude" (LIMA JÚNIOR, 2002, p. 214) and "a proposal for curriculum change capable of changing the profile of the medical school graduate" (GOMES and REGO, 2011, p. 563). According to these authors, pedagogical practices in the medical field based on AMs would be aimed at preparing the student to become aware of his or her reality and act intentionally to transform it. In short, these perspectives signify the curriculum as an instrument of "revelation."

However, this way of interpreting the curriculum, or its effects, from a "philosophy of consciousness" is amplified and, at the same time, modified when we analyze it from the perspective of "social epistemology." This form of reasoning, arising from post-critical theories, consists of a "conceptual mapping that describes changes in the way the objects of social life are discursively built" (POPKEWITZ, 2008, p. 180). From this perspective, language appears to be "constitutive/formative" and not merely "expressive/descriptive" (CORAZZA, 2001). Moreover, it comes from historically formed reasoning styles, and it is not only representative of things in the world, but it is also an important element of power (POPKEWITZ, 2008). In seeking to emphasize the historicity of the linguistic system, Popkewitz (2008) uses the concept of epistemology to refer to "the way knowledge in the process of schooling organizes perceptions, ways of responding to the world, and conceptions of self" (p. 174). The "social" that qualifies epistemology emphasizes the "relational and social implication of knowledge, in contrast to philosophical concerns of the United States with epistemology understood as the search for the universal knowledge of the nature, its origin, and the limits of knowledge" (POPKEWITZ, 2008, pp. 174-175).

This way of privileging knowledge (as social regulation) and language (as constitutive of reality) in curriculum studies is characteristic of what is conventionally called "linguistic turnaround." The emphasis on language and discourse started to be used "as a strategy of cultural struggle" (PARAÍSO, 2010, p. 40), with the curriculum understood as a "social invention like any other" and its content understood as a "social construction" (SILVA, 2002, p. 135). This is like the idea that the curriculum is made up of competing discourses, which cross it and dispute ideas about the world and the things in it in a game that takes place in the midst of power-knowledge relationships (FREITAS, 2014). This happens because the consideration of discourse as practices intended to form the objects to which it refers has gained prominence in the curricular field (FOUCAULT, 2005).

From this perspective, the concepts of power and knowledge are engaged in a mutual and internal relationship with the discourses of the curriculum. Although the curriculum seen from a post-critical perspective remains a space of power,

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[3] In theorizing about the "dialectical nature of the curriculum" - which operates through the binary "construction/deconstruction" - Cherryholmes (1992) stated that curricula can translate into an effort to "help students acquire an understanding of their discourses, how knowledge and power create and recreate each other, or they can focus on the acceptance of existing discourses along with their unique opportunities, constraints, and oppressions" (p. 163).

> [...] this power becomes decentralized, with knowledge not being external to it, but an inherent part of the power... The analysis of this power is no longer limited to the economic relations of capitalism [...] the map of power is enlarged to include processes of domination based on race, ethnicity, gender, and sexuality. (SILVA, 1996, pp. 148-149)

The notions of power and knowledge remain central to post-critical analyses of the curriculum and appear inseparable (the curriculum, as an embodiment of knowledge, is closely linked to power). This interdependence between power and knowledge in the post-critical perspective consists of the understanding that "the regulation of conduct, the government of individuals – and, therefore, power – presupposes its knowledge [...] Knowledge necessarily implies domination" (SILVA, 1996, p. 167). Power is inscribed within the curriculum: "that which divides the curriculum – which affirms what is knowledge and what is not – and that which is divided – establishing inequalities between individuals and social groups – that is precisely power" (SILVA, 1996, p. 167). In this sense, "knowing is a knowledge that comes from what power sees for itself" (MAKNAMARA, 2011, p. 55).

Thus, the discourses of a curriculum are interpreted as practices permeated by power-knowledge relationships; the discourses are "a set of strategies that are part of social practices" (FOUCAULT, 2003, p. 11), and should be considered "strategic games, of action and reaction, question and answer, domination and evasion, as well as struggle" (FOUCAULT, 2003, p. 9). Thus, by embodying particular knowledge about the individual and society, the discourses constitute us as individuals (SILVA, 1996), and when the curriculum is interpreted as "discourse," it can be signified as "the constitution of ourselves as individuals" (SILVA, 1996, p. 167).

That said, we understand that a curriculum is not necessarily involved in a process of "content transmission," "social reproduction," or "revelation of reality," but it is involved in a process of "constitution" (of individuals of certain types) and "positioning of individuals" (that are multiple, within the various social divisions). Based on this perception, researchers in the field of curriculum – such as Corazza (2004), Popkewitz (2008), Silva (1996; 2002), Cherryholmes (1992), Paraíso (1996; 2014), and Gallo (2012) – have sought, since the proposal of post-critical theories, to define the concept of curriculum in various ways, moving away from the idea that we can reach a consensus on it.

Popkewitz (2008) defines a curriculum as a "system of regulation and discipline" (POPKEWITZ, 2008). This characterization suggests that "not only information is inscribed within the curriculum – the organization of knowledge embodies particular ways of acting, feeling, speaking, and seeing the world and the self" (POPKEWITZ, 2008, p. 174). In this way, the curriculum involves forms of knowledge aimed at regulating and disciplining the individual.[4] Curricular knowledge is seen as "disciplinary technology" that involves our ways of speaking and reasoning – the ways in which we "tell the truth" about ourselves and others – with issues of power and regulation (POPKEWITZ, 2008).

Similarly, a curriculum can be understood as a "regulation and control instrument" (SILVA, 1996). In order to support this argument, Silva (1996) starts with Foucault's thoughts about "forms of government" in which the "power" and "knowledge" concepts appear interwoven/interdependent:

> For Foucault, government is not based on an entirely external strategy of control, but on the assumption of the self-government of individuals. The external control of conduct - what Foucault called "technologies of domination" - is combined with self-control - what Foucault called "technologies of the self" - to produce a "self-governing individual" (SILVA, 1996, p. 162).

Therefore, the government should be understood as comprising "techniques and procedures designed to direct the conduct" of others and of oneself (FOUCAULT, 1997, p. 101). When we talk

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[4] For Popkewitz (2008), the notion of regulation "does not serve to attribute distinctions of good/bad or moral/immoral when addressing the process of schooling. It is used to recognize the sociological premise that all social situations have restrictions and constraints historically inscribed on our individuality" (p. 191).

about technologies[5] of domination, we refer to institutionalized practices of objectification of each other supposing a certain form of rationality, as occurs with discipline, for example (FOUCAULT, 1993). Technologies of the self, in turn, are understood by Foucault as

> reflective and voluntary practices through which humans not only set for themselves rules of conduct, but also seek to transform themselves, modifying themselves in their unique being and making of their lives a work that carries certain aesthetic values and meets certain stylistic criteria (FOUCAULT, 2001, p. 15).

"Techniques of the self" or "technologies of the self" are expressions used by Foucault to refer to the processes of knowledge and self-control, or the relationship with oneself "through which the individual is constituted and recognized as an individual" (FOUCAULT, 2001, p. 11).[6] The encounter between these techniques of the self and the techniques of domination of others constitutes the governmentality, understood as the "contact surface in which the manner of leading individuals and the manner in which they conduct themselves come together" (GROS, 2004, p. 637), that is, the field of possible and limiting actions of the government. Therefore, techniques of domination and of the self must be understood as "the means or instruments through which the government is coupled, and the individuals are subjected becoming individuals of certain types" (PARAÍSO, 2006, p. 4).[7]

The articulation of these concepts in curriculum analysis allows us to understand and observe government management in a curriculum. In this analysis, educational action aims at producing a "self-governing individual," and the curriculum would be "a particular domain of knowledge of the individual included in government strategies" (SILVA, 1996, p. 162), that is, an instrument of regulation and control. This way of interpreting the concept of curriculum is like its definition as a "mode of subjectivation" (CORAZZA, 2004). Subjectivation, in turn, can be interpreted as

> [...] the relationship with oneself that is always reborn, in various places and in several forms [...] Individuals are the matter under which the work of subjectivation is conducted. They are nothing without the form through which ethical experience models them, and do not have to be, regardless of this work of subjectivation" (CORAZZA, 2004, p. 62).

This implies analyzing the subjectivities produced by a curriculum that are "subjected the knowledge and power relationships that cross the bodies and are recorded in consciousnesses" (CORAZZA, 2004, p. 58). Following this same line of thought, the curriculum is presented to us as a "subjectivation machine" (GALLO, 2012), and subjectivation is thought of as a process that transgresses the modern concept of subject (thought as the founding category; as substance; monolithic identity). It should be understood as "something that is produced, manufactured according to some historical and cultural categories, something that varies in time and space" (GALLO, 2012, p. 204), or even as an artifice of language, or a discursive production, resulting from power-knowledge relationships (FOUCAULT, 1995).

Similarly, Silva (1996; 2002) defines the curriculum as a territory, a place where individuals are constituted, and as a space for training. It should also be understood as a "social, cultural, and historical artifact, subject to changes and fluctuations" (SILVA, 2002, p. 77). As a cultural artifact, the curriculum is understood as something that is done, built for a given purpose. Such qualification attributed to the curriculum is reinforced by the position of Paraíso (1996), which, by understanding

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[5] "Technologies" are understood by Foucault (1993, p. 206) as "the articulation of certain techniques and certain types of discourse about the individual."

[6] Hence, it is understandable to apply different techniques or exercises of oneself that imply some kind of relationship between the subject and himself, such as "confession, examination of conscience, and direction of consciousness," and those that are present in pedagogy with other designations, such as "self-evaluation," "self-knowledge," "self-esteem," "self-control," "self-confidence," "autonomy," "self-regulation," and "self-discipline" (GONÇALVES, 2010, p. 119).

[7] The encounter between these two types of techniques allows to analyze how subjectivities are produced (FOUCAULT, 1993).

culture as a "terrain of struggle," states that the curriculum results from a selection process within cultures, being "a field of production and cultural contestation" (p. 139).

As we have seen so far, the authors mentioned do not seek an essentialist or fixed answer to "What is a curriculum?"; instead, they problematize the concept of curriculum, attributing various meanings to it. All these concepts have the common goal of allowing us to understand that curriculum is an "artifact" and that it is involved in the production of individuals positioned differently. This conceptual basis also aims at inspiring and making us understand that, when investigating a medical curriculum based on the use of AMs, we must problematize this curriculum and the process of training of medical professionals based on it. We will do this in the following topic.

PROBLEMATIZING DISCOURSES CONSTITUTING A MEDICAL CURRICULUM BASED ON THE USE OF AMs

After explaining how a curriculum is signified by the post-critical perspective, we can see that there is no way to reach the origin, the core, or the essence of the concept of curriculum. However, it is not difficult to find discursive investments in research in medical education in Brazil that, in general, reiterate the idea that a curriculum based on the use of AMs is the ideal, and that reaffirm that these AMs would be the practices most appropriate for medical training. This can be observed from the following discursive fragments, which describe the AMs as "an innovative strategy, important to train a doctor who responds to social demands, that is, a competent humanist and technician" (MORÉ and GORDAN, 2004, p. 112); an "ethical, critical, reflective, and transforming pedagogical practice that goes beyond the limits of purely technical training to effectively train the man as a historical being, inscribed in the dialectics of action-reflection-action" (MITRE, 2008, p. 10); "a methodology capable of making the student a potential agent of social transformation" (CEZAR et. al., 2010, p. 300); and "a methodological proposal that enables training a professional, that follows the DCNs of medicine, and that meets the needs of the SUS" (COSTA, 2016, p. 245).

These discursive fragments are highlighted to show what is common among them, namely, the fact that they illustrate "real desires" (CORAZZA, 2004) for medical curricula based on the use of AMs. That is, they attribute the same meaning to a curriculum based on the use of AMs, presenting it following a "salvationist" logic, arguing for its supposed capacity to meet the needs and fill the gaps in medical education in Brazil. Following the same line of thinking, this curriculum could "reveal," through a supposed transcendence or awareness, a professional as the one proposed in the official curriculum of the medical school of a public Higher Education Institution (HEI), as was analyzed in this study. By basing its proposal on the AMs and seeking to meet the DCNs of medicine, this curriculum states that,

> The medical school, by following its objectives of providing an integral, human, critical and transforming training, proposes to train a doctor with a generalist, humanist, critical, and reflective profile, with competence to act, based on ethical principles, in the process of health-disease in its different levels of care, with actions of promotion, prevention, recovery, and rehabilitation to health, from the perspective of comprehensive care, having a sense of social responsibility and a commitment to human dignity, citizenship, and the defense of vulnerable lives (IES, 2017, p. 14).

By considering this medical profile the desired one, this curriculum aims to "reveal" a professional in its essence. This curriculum demands an ideal profile of a medical professional, stipulating that he/she should be a "critical," "reflective," "humanist," "ethical," and "transformative" individual. The adjectives attributed to the medical graduate, when added to the discourses of "integral health care" and "social responsibility and commitment," suggest the training of a superhero medical professional. This curriculum makes us believe that, if the medical graduate has these skills/attitudes/techniques, he/she will become a professional who will be able to defend/save vulnerable lives.

However, post-critical language teaches us to see the "pretentiousness" and "arbitrariness" embedded in things and to no longer fall into the fallacy of seeking an essence in them. In this sense, looking at the discourses of a curriculum, specifically the medical curriculum analyzed here, implies

focusing on the production of these discourses and questioning the supposed authenticity, superiority, and consistency that this curriculum advocates for itself. Therefore, it implies refusing to accept the apparent "unpretentiousness" or "benevolence" and "transparency" of this curriculum to rely on the "individual's will."

Thus, when analyzing a curriculum, specifically, the medical curriculum analyzed here, we should distrust its intentionality and investigate the nature of its discursiveness, because it is "arbitrary and fictional for being historically and socially constructed" (CORAZZA, 2004, p. 20). It is worth reiterating that this character considered arbitrary and fictional is present in different curricula for professional training in Brazilian medical schools (within and outside the health area); however, we chose to analyze only the case of a medical school curriculum based on the use of AMs.

Therefore, by looking at a medical curriculum in this way, we start to see it as only a "possibility" for medical education, and the medical professional who emerges from it must be understood as a fabrication, an "invention" (in the sense of its "arbitrariness" and "fictionality") that results from different discursive and non-discursive demarcations (FISCHER, 2001). This invention leads to the training of positioned doctors, with attempts to clarify what would reliably characterize this professional resulting in the definition of "truth regimes" (CORAZZA, 2004) about what constitutes a doctor. These "truth regimes" would be present in the official curriculum analyzed here, provided for in the PP of medical schools (for example, when it defines the desired medical profile, as previously mentioned) and the DCNs that guide it (the principles, foundations, conditions, and procedures for the training of doctors, presented in CNE/CES Resolution No. 4 on November 7, 2001 and reiterated in Resolution No. 3 on June 2014, that establish what constitutes a medical professional). Therefore, the truth that stands out from the discourses of this curriculum does not say everything; it is a "semi-discourse" (CORAZZA, 2004) and "[...] the discourse taken as true is the one that imposed itself on other discourses, relegating them to the terrain of the false and illusory, thus establishing an order" (CANDIOTTO, 2010, p. 51).

Here we seek to move away from the idea of the origin and essence of a medical professional relying on a supposed awareness/transcendence, understanding that this professional results from the relationships between "power and knowledge" (SILVA, 1996) present in the discourses of a medical curriculum based on the use of AMs. Such relationships appear in this curriculum as forms of regulating and controlling the conduct of medical professionals through the classification and prioritization of content items (incorporating some and excluding others) to be learned by the medical graduates. It is worth noting that this is a characteristic of any curriculum construction, regardless of the educational level (either in basic education or higher education) and that the medical school curriculum analyzed here is no exception to this rule. These forms of regulation and control can already be observed in the DCNs of Medicine (presented in the 2001 Resolution and reiterated by the 2014 Resolution), when they define the curriculum content of the CPP of medical schools, stating that,

> Art. 23. The fundamental content for Medical Schools must be related to the entire health-disease process of the citizen, family, and community and must be based in epidemiological and professional realities, enabling integral health care actions (BRASIL, 2014, p. 10).

By defining as "fundamental" the content it selects, this curriculum ends up including specific forms of knowledge and learning in its proposal, like those provided for in Art. 6 of the 2001 Resolution, and reiterated in Art. 23 of the 2014 Resolution, which should include:

> I - knowledge of the molecular and cellular bases of normal and altered processes, of the structure and function of tissues, organs, systems and devices, applied to the problems of their practice and in the way the physician uses it;
> II - understanding of the social, cultural, behavioral, psychological, ecological, ethical, and legal determinants, at the individual and collective levels, of the health-disease process;
> III - approach to the health-disease process of the individual and the population, considering its multiple aspects of determination, occurrence, and intervention;
> IV - understanding and mastery of propaedeutic knowledge: the ability to perform a clinical history and physical examination, having pathophysiological knowledge of signs and symptoms,

reflective ability, and an ethical, psychological, and humanistic understanding of the doctor-patient relationship;

V - diagnosis, prognosis, and therapeutic conduct in diseases that affect the human being in all phases of the biological cycle, considering the criteria of prevalence, lethality, prevention potential, and pedagogical importance;

VI - promotion of health and understanding of the physiological processes of human beings (pregnancy, birth, growth and development, aging, and death), as well as the physical activities, sports, and activities related to the social and physical environment;

VII - approach to transversal themes involving knowledge, experiences, and systematized reflections on human rights and people with disabilities, environmental education, teaching of Libras (Brazilian Sign Language), education on ethnic and racial relations and the history of Afro-Brazilian and indigenous culture; and

VIII - understanding and mastery of the new communication technologies for remote database access and mastery of at least one foreign language, preferably a lingua franca (BRASIL, 2014, pp. 10-11).

By defining such content as suitable for medical training, this curriculum excludes other aspects of knowledge or considers them less important in its proposal, such as, for example, the need to be "individually and concretely focused on the disease" (FLEXNER, 1910, p. 1), provided for in the recommendations of the Flexner Report. According to Santos (1986), these recommendations addressed the disease as a natural, biological process, and did not consider the social and collective context, the public, or the community fundamental for medical education or involved in the health-disease process.

In addition to selecting content items (including some and excluding others), the curriculum analyzed here makes a point of specifying how such content should be related to the citizen, health and disease, the family, and the community. Thus, it presupposes that medical professionals should perform their services with the understanding that the responsibility of providing health care does not end with the technical act, but with the resolution of the health problem, both at the individual and collective levels. In order to ensure this expanded view of the physician on health care, the DCNs define strategies to be incorporated into medical curricula, aiming at promoting the acquisition of skills and certain attitudes by medical graduates. This can be observed in the determinations provided for in Art. 12 of the 2001 Resolution, which, upon being taken up and reformulated in the 2014 Resolution, states (in Art. 29 of Chapter III of this Resolution) that the structure of the medical school must

VI - insert the student into health service systems, considered learning spaces, from the initial semesters and throughout the Medical School years, from the perspective of the expanded concept of health, considering that all scenarios that produce health are relevant learning environments (BRASIL, 2014, p. 12).

It is worth mentioning that, when this curriculum urges for the insertion of students into health service systems, it does not aim at training any doctor, but at training an individual who is not restricted to the isolation of a private practice. This determination provided for in Art. 29 of Chapter III of the 2014 Resolution is materialized in the medical curriculum analyzed here in its "matrix and curriculum organization." During the first four years of school (called "fundamentals of clinical and surgical practice"), this matrix is divided into 4 axes/modalities, with the "Teaching, Health, and Community Integration (IESC)" as one of these axes, which aims at ensuring that the student experiences

activities developed in real scenarios within the community and the SUS (health units, hospitals, outpatient clinics, etc.) aimed at strengthening cognitive learning and bringing the student closer to the local population, in order to ensure an integral, respectful, ethical, critical, and humanistic standard of care, considering the individual and the context in which they are inserted, and their culture, beliefs, habits, and customs, thus allowing the development of skills and attitudes (IES, 2017, p. 52).

It is possible to observe in this fragment the discourse of "contextualization in teaching," which allows the medical curriculum of the HEI to present itself as an enabler of engaged learning and

integral assistance. It is worth noting that engaged learning and integral performance are interpreted here as attributes of the individual, or positions to be occupied by the individuals that this curriculum requires.

Therefore, these definitions established for/by the HEI medical course curriculum are configured as "governance strategies" to position the medical professional, that is, to determine which type of professional is "desired" by the curriculum. Therefore, this curriculum aims at "governing," in the sense of establishing medical ways of being, or, as initially stated by Foucault (1996), to produce a "self-governing individual." This can also be expressed in the emphasis this curriculum places on both the use of "summative" and "formative" assessment methods of teaching and learning. The summative assessment, in turn, aims at

> determining the degree of mastery of the student in a learning area, which allows an institution to grant a qualification, which, in turn, can be used to confirm that that knowledge was actually learned [...] The purpose of a summative assessment is to analyze whether the student can progress during medical school [...] The instruments used for summative assessment in the various teaching activities are objective written tests [...]; subjective written tests [...]; integrated written tests (IES, 2017, p. 187).

Here we observe the "techniques and strategies of domination" used by the analyzed curriculum to direct the conduct of medical students. These techniques are used to measure the learning performance of students and to classify them at the end of a learning period (semester or module) according to academic performance (which may be satisfactory or unsatisfactory). Therefore, such techniques seek to adapt student learning to the requirements for medical training established in/by the curriculum.

This curriculum indicates some instruments for conducting a "formative assessment," such as feedback to be given by the tutor about the students' performance in their activities; the elaboration of portfolios as instruments that allow the establishment of a dialogue with the professors and vice-versa about the progress, difficulties, and anxieties of the students; and the student's self-assessment of his/her teaching and learning activities. Student self-assessment, in turn, is understood as a process in which

> Each student assesses their own performance in teaching-learning activities in order to develop a sense of self-criticism and responsibility for learning. Self-evaluation only becomes meaningful when it allows the learner to think about the learning process itself. This exercise develops the understanding of their weaknesses and broadens their awareness of their relationship with thinking and doing, increasing the chances of overcoming the difficulties (IES, 2017, p. 190).

When this curriculum establishes that each one must assess his/her own progress in learning, it is referring not only to assessment: it takes the assessment as an objective whose achievement requires a certain type of individual. And what kind of individual is that? If this individual needs to be engaged in his/her learning (as seen previously) and needs to engage in his/her own assessment, it is because, with these two requirements (of learning and assessment), this curriculum requires an individual to be his/her own "self-coach." Such a position corresponds to an individual capable of managing the development of his/her training and performance, that is, an individual who aims at improving his/her "capacity for continuous learning throughout his/her professional life, auditing his/her own performance" (BRASIL, 2001b, p. 2). Here we can observe that this curriculum aims at training a type of medical professional endowed with the capacity for autonomy and self-management of learning. To this end, this curriculum has focused on the use of AMs, since, according to the literature, AMs "have great potential to promote autonomy in the student's learning" (BERBEL, 2011, p. 30). Among the modalities of AMs worked on in the curriculum analyzed here, we emphasize the use of Problem-Based Learning, which is the main axis of technical-scientific learning in this curricular proposal.

As we have seen so far, the analyzed curriculum requires multiple and specific types of individuals, making available positions to be occupied (or not) by students of the medical school of the HEI. The "self-coach" is one of those positions for individuals, and it will be fundamental in future

contexts of public health care, which will often be faced with problems and a lack of resources that will demand autonomy, initiative, creativity, and the capacity to adapt on the part of the medical professional.

However, it should be emphasized that considering the positions for individuals presented here, we cannot affirm that an official curriculum provided in the DCNs will train physicians with these characteristics. Subjectivation is not built only from a formal curriculum provided in the curriculum guidelines or with the use of AMs, it should be understood and constituted "in the relationship with oneself that is always reborn in various places and under multiple forms" (CORAZZA, 2004, p. 62). Furthermore, as Foucault (1995, p. 248) states, "where there is power, there is resistance," so it is important to make it clear that there is no control over the production of individuals demanded by the discourses of a curriculum. The effects of these discourses are also always multiple, heterogeneous, and varied, which leads us to understand that the positions of individuals required by them are not fixed. Thus, when researching a medical curriculum based on the use of AMs, aiming to understand the production of individuals by it, it is necessary to consider not only the positions of individuals made available by the discourses, but also to understand the "resistances," or the escapes and constructions of other ways of being experienced in the analyzed curriculum..

CONCLUSION

This study aimed to show how a curriculum is signified by post-critical theories, and from this perspective, problematize the discourses that constitute a curriculum of medicine based on the use of AMs. Therefore, we focused on contemporary authors who make the connection between the "curriculum" and "post-critical theories." The analytical effort undertaken here allowed us to understand a curriculum based on the use of AMs beyond the idea of an instrument involved in processes of "transmission," "reproduction," or "revelation" of methodologies and individuals in their essence. We have learned that, in a post-critical setting, a curriculum is involved in processes of both the constitution and positioning of subjects and of the contestation and transgression of these positions.

Therefore, we sought to go beyond the transcendental meaning attributed to the medical curriculum based on the use of AMs in which, from the critical perspective of the curriculum, these methodologies are considered to be able to reveal (through a process of transcendence or awareness) an "ideal" medical professional. We were not primarily interested in discussing what can be done with this curriculum, but rather what this curriculum does, because it produces meanings, manufactures things, and acts as the architect of modes of subjectivation (CORAZZA, 2001). From our analysis, we identified which modes of subjectivation are architected by the medical curriculum based on the use of AMs at a public HEI, to the extent that this curriculum requires specific types of individuals. We have found that for this purpose, multiple and specific positions for individuals (to be occupied or not by those who are subjected to the curriculum), such as the "superhero" and the "self-coach" archetypes, are made available by the analyzed curriculum.

More specifically, if we want to move forward with the investigation of the modes of subjectivation of this curriculum, we must ask the following questions: Based on what knowledge and forms of reasoning does this curriculum produce truthful effects relative to a "critical," "reflective," "humanist," "ethical," and "transformative" medical professional? What mechanisms of power are at stake when it is stated that it intends to train a doctor with specific skills and attitudes, such as someone who is a "critical medical professional," "reflective," "humanist," "ethical," and "transforming"? What strategies and technologies are mobilized to position medical professionals? How are these subjective strategies and technologies activated to build such positions from this curriculum? Are there "resistances/escapes" to the establishment of a "critical," "reflexive," "humanist," "ethical," and "transformative" position for the individual? Considering the possibility of "escapes" from the positioning of individuals by a discourse, how are other ways of becoming experienced in the analyzed curriculum constructed?

These and other possible issues give rise to the possibility of problematizing a medical curriculum based on the use of AMs to investigate how subjectivities have been produced through the discourses that constitute it. These questions could be answered by future studies in this field, which can further investigate this curriculum and the conflicting discourses to then understand the power relations that are established, understand what emerges from these relations, what (and how) they can trigger,

through conflicting discourses, the production of sensibilities and individuals that emerges from this process. This analytical exercise can be performed using Foucault's discourse analysis, since this tool allows one to perform an "analytical description" (PARAÍSO, 2014) of the discourses, considering the machinations through which the medical professional is manufactured as a particular type of individual by a medical curriculum based on the use of AMs.

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