

## The distances between the Common National Curriculum Base and ethnomathematics

**Adriano Vargas Freitas<sup>1</sup>** 

Universidade Federal Fluminense (UFF), Faculdade de Educação, Niterói, RJ, Brasil

**Maria Cecilia Fantinato<sup>2</sup>** 

Universidade Federal Fluminense (UFF), Faculdade de Educação, Niterói, RJ, Brasil

### Abstract

The article highlights one of the most recent documents that directly influence educational policies in our country. This document is the Common National Curriculum Base for basic education. This document has been presented as defining the learning rights of all students. It is part of an educational project that aims to guide curriculum implementation in all schools. He will also direct teacher training. However, we analyze that its implementation involves the reduction of curricula to an object, a product, the list of previously given contents. Furthermore, it comes to mean a process of colonization, standardization, control, and making difference invisible. In this way, he distances himself from curricular practices aligned with ethnomathematic perspectives.

**Keywords:** Common National Curriculum Base; Ethnomathematics; Resumes.

## Os distanciamentos entre a Base Nacional Comum Curricular e a etnomatemática

### Resumo

O artigo destaca um dos mais recentes documentos que influenciam diretamente as políticas educacionais em nosso país, a Base Nacional Comum Curricular da educação básica. Tal documento tem sido apresentado como definidor dos direitos de aprendizagens de todos os alunos, e parte de um projeto educacional que visa orientar implementações curriculares em todas as escolas, assim como direcionar a formação de professores. Analisamos, entretanto, que sua implementação envolve a redução de currículos a objeto, a produto, a lista de conteúdos previamente dados. Além disso, passa a significar um processo de colonização, padronização, controle, e invisibilização da diferença. Desta forma, ele se distancia de práticas curriculares alinhadas às perspectivas etnomatemáticas.

**Palavras-chave:** Base Nacional Comum Curricular; Etnomatemática; Currículos.

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<sup>1</sup> Doutor em Educação Matemática pela PUC-SP. Professor do Programa de Pós-Graduação em Educação da UFF. E-mail: [adrianovargas@id.uff.br](mailto:adrianovargas@id.uff.br)

<sup>2</sup> Doutora em Educação pela USP. Professora do Programa de Pós-Graduação em Educação da UFF. E-mail: [mc\\_fantinato@id.uff.br](mailto:mc_fantinato@id.uff.br)

## Las distancias entre la Base Curricular Nacional Común y las etnomatemáticas

### Resumen

El artículo destaca uno de los documentos más recientes que inciden directamente en las políticas educativas de nuestro país. Este documento es la Base Curricular Nacional Común para la educación básica. Se ha presentado como una definición de los derechos de aprendizaje de todos los estudiantes. Es parte de un proyecto educativo que tiene como objetivo orientar la implementación del plan de estudios en todas las escuelas, así como la formación directa de profesores. Analizamos, sin embargo, que su implementación implica la reducción de los currículos a un objeto, un producto, la lista de contenidos previamente dados. Además, se trata de un proceso de colonización, estandarización, control y invisibilización de la diferencia. De esta forma, se distancia de las prácticas curriculares alineadas con las perspectivas etnomatemáticas.

**Palabras clave:** Base de currículo nacional común; Etnomatemáticas; campo del plan de estudios.

### 1. Introduction

In this article we highlight one of the most recent documents that directly influence educational policies in Brazil. We are talking about the Common National Curriculum Base (BNCC) of basic education. According to its defenders, it is the defining document of the “learning rights of all students in Brazil” (Lemann Foundation, 2020)<sup>3</sup>. This document is part of a homogenizing educational project that aims to guide curriculum implementation in all schools.

The BNCC determines the essential knowledge and skills that all male and female students are entitled to learn. This means that, regardless of region, race or socioeconomic class, all students in Brazil must learn the same skills and competences throughout their school life (LEMANN, 2020, p. 1).

The Federal Constitution of 1988 presents in its article 206 the indications that education in the country will be given based on some essential principles. For example, the principle of equality. It means promoting the necessary conditions for access and permanence in school, and the freedom to learn, teach, research and disseminate thought, art and knowledge. But, a portion of society was eager to give greater prominence to another article, specifically the number 210. this principle indicates the establishment of “minimum content for elementary education, in order to ensure common basic education and respect for national and regional cultural and artistic values” (BRASIL, 1988, p. 109).

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<sup>3</sup> [https://funda.cao.lemann.org.br/noticias/o-que-e-a-bncc?gclid=EAiaIQobChMIotLc2vrC6wIVAgeRCh2J3QIUEAAAYASAAEgK-B\\_D\\_BwE](https://funda.cao.lemann.org.br/noticias/o-que-e-a-bncc?gclid=EAiaIQobChMIotLc2vrC6wIVAgeRCh2J3QIUEAAAYASAAEgK-B_D_BwE). Access in 30/04/2021.

The search to achieve this false national unity was later reiterated in the Law of Guidelines and Bases for National Education (BRASIL, 1996). Then came the BNCC, whose approval of the part referring to early childhood education and elementary education took place in 2017.

The Common National Curriculum Base will make it clear what knowledge is essential for all Brazilian students. They have the right to access this knowledge and appropriate it during their trajectory in Basic Education, year after year, from entering the Nursery School to the end of High School. With the BNCC, educational systems, schools and teachers will have an important pedagogical management tool and families will be able to participate and monitor their children's school life more closely. The Base will be another tool that will help guide the construction of the curriculum of more than 190,000 Basic Education schools in the country. These schools are spread from North to South, public or private. With the BNCC it will be clear to everyone which are the fundamental elements that need to be taught in the Knowledge Areas: in Mathematics, Languages and Natural and Human Sciences. The BNCC is part of the Curriculum and guides the formulation of the Political-Pedagogical Project of the schools, allowing for greater articulation of this project. (BRASIL, 2019, p.1)

In the text above there is a call for society to participate in the implementation of the BNCC. There is also a promise of organizing the fundamentals that need to be taught in our schools. But, this is a document with few spaces for important issues such as culture and difference. This problem leads us to some questions that are still open, such as: Who was interested in implementing this BNCC? What understandings of curriculum were articulated in these curriculum policies? Does establishing the minimum really guarantee the quality of education? What is quality education? Base is simply a list of contents? Many other questions could be presented here, such as: How to indicate what is National Common?

## **2. The implementation of BNCC**

For Santos (2017, p. 4), the pressure to implement the BNCC came from the assessment systems and the managers of Organs central bodies of the education systems. The intention was to assess the educational process with more concrete parameters for these assessments. This author highlights that academics in the curriculum area express the impossibility that, in practice, the BNCC represents the quality of education. This impossibility also occurs in guaranteeing the quality of the teaching and learning process. This document will be reinterpreted/recontextualized according to the experiences and traditions of the different spheres (educational departments, by the school, by the teacher, and by the student).

This common national basis, as it is being proposed, goes against inclusion policies. It contradicts the right to be different. The BNCC seems to differ from other policies of the Ministry of Education itself. [...] Any specialist in these areas knows that difference and diversity cannot be achieved from a common national base (SANTOS, 2017, p.4).

This type of position is supported by the document of the National Association of Graduate Studies and Research in Education (ANPED, 2016). This entity denounces the marketing character involved in BNCC's proposal. The BNCC presents itself as the representative of a unifying project in the direction that point to international trends of curricular standardization/centralization + large-scale testing + accountability of teachers and managers” (ANPED, 2016, p.2).

Even before the publication of this document produced by ANPED, Macedo (2014) was already talking about the complex public-private relationship involved in the construction of the BNCC. This author highlights that many financial institutions and companies showed great interest in this construction. Among these companies, we can highlight: Banco Itaú, Banco Bradesco, Banco Santander, the Gerdau steel industry, the cosmetics company Natura, the Volkswagen automaker, Fundação Victor Civita, Fundação Roberto Marinho, and Fundação Lemann.

In the process of constructing this document, the notion of “common” and “national” ignored, in general, democratic processes of full participation by educators and researchers in the area. Furthermore, they encouraged the search for results. These results involved the false neutrality and coldness of the numbers obtained in the patterns and the good indexes, which are so desired by the market.

Thus, we consider that this document configures a curriculum perspective that reduces the complexity of the field of curriculum studies. The curriculum becomes just an object, a product, a list of previously given contents. Furthermore, it comes to mean standardization, homogenization, regulation, control. It starts to mean the invisibility of difference.

Ribeiro and Freitas (2018) analyze that changes in the country's political scenario have tried to reduce debates related to problems that involve these complexities in the field of curriculum. This historic movement seems to allow a growing conservative force to emerge in the exercise of power. To exemplify, these authors highlight the movement called “School without a Party” that publicly defended the BNCC, and that sought to implement a series of measures against democratic administrations in schools, even aiming at

[...] influence the action of parents and students through the culture of denunciation against “the ideologues”, above all, the elementary school teachers, assuming that most of them impose a partisan ideology on their students, who have been treated by

defenders of this movement as a “captive audience” (RIBEIRO and FREITAS, 2018, p. 40).

Much of what we saw in the campaigns defending this document was based on arguments related to the perception of the existence of a crisis in education, poorly trained teachers, the incompetence of the state in public administration, etc. (MACEDO, 2014). This whole picture would be improved with the implementation of a salvationist and innovative proposal. Supposedly, it will guarantee the learning and development rights of students through the definition of minimum content.

Garcia and Fontoura (2015) analyze that these discourses have emptied the expression, “learning rights”. These rights are now reduced to a simple set of content and skills to be achieved. Considering not only that this set appears ready for teachers to develop in their activities together with students, but also because we know that it is common for the “minimum” to become the “maximum” in a policy of results. In other words, what counts is what will be charged in the evaluation.

### **3. Distances from ethnomathematics perspectives**

The idea that curriculum is a field of disputes may have in this situation, the construction and implementation of the BNCC, one of the most symbolic examples. Ribeiro and Freitas (2018) emphasize that the more conservative curricular approach is not very different from the neoliberal discourse, in some important respects. In both, the curriculum is thought of as an object, a document, as a weapon to change education. Both share the idea that there is a universal body of knowledge.

This idea goes against what research in the area of mathematics education has pointed out (FREITAS, 2013). The researches seek to overcome old problems in the teaching area related to the distancing of the curricular activities developed in the classrooms, and the daily lives and experiences of students. The indication of curricular practices based on ethnomathematic perspectives would be a possible way to incorporate students' previous knowledge. Thus, it would open dialogic spaces for the appreciation and incorporation of issues directly related to the social, cultural and political specificities of these students in the curricular practices. They would provide the formation of critical citizens, and make the different cultural knowledge visible (FANTINATO, 2004; KNIJNIK, 2006; FANTINATO, FREITAS and DIAS, 2020).

For D'Ambrosio (2001), the existence of school organization proposals that are based on educational homogenization processes that still insist on placing children in grades, according to age, in offering the same curriculum in the same grade, is regrettable (p. 61). Even more regrettable,

according to this author, are the proposals for national curricula, as it is about pasteurizing the new generations (p.61), and reducing spaces for everyday knowledge and diversity.

A good education will not be evaluated on the content taught by the teacher and learned by the student. The wear and tear of the educational paradigm synthesized in the “teaching-learning” binomial. Verified by disreputable assessments, it is unsustainable. My proposal is an educational response to the expectations of eliminating inequity and violations of human dignity, the first step towards social justice. (D'AMBROSIO, 2001, p.66).

A curriculum proposal that takes diversity into account should not only consider aspects related to content or skills in the teaching and learning process, as the recognition of the cultural identity of students is fundamental to their educational development. Ethnomathematics, when taken as a reference proposal, can stimulate attitudes in teachers to perceive the existence of different ways of reasoning among students, legitimizing knowledge built in different contexts and favoring the construction of pedagogical strategies that deal with learning outside the school and school (DOMITE, 2004).

The complexity of the dialogue between different types of knowledge in the school context has been embedded in curricular discussions from an ethnomathematic perspective (MONTEIRO and MENDES, 2014). We also emphasize that, in ethnomathematics perspectives, mathematical curriculum proposals must always involve the search for a human formation integrated to the different dimensions of life. Thus, this educational project is very committed to overcoming social inequalities and injustices.

The challenge imposed consists of seeking to reconcile the need to teach “dominant mathematics while giving recognition to ethnomathematics and traditions” (D'AMBROSIO, 2001, p.24) in which these individuals are immersed. But, as it presents itself, BNCC, imposing the skills to be developed in each grade, it leaves few spaces for teachers to promote the use of students' experiences as a way to involve them in mathematical activities and keep them participating in the entire educational process.

This document may end up imposing a “traditional dress, basically in the exhibition format” to curricular practices (FREITAS, 2013, p.72). There is little or no space for dialogue, reflection, collective creation, or even the possibility of reminiscing and exposing your experiences in mathematics. After all, a large number of their skills are involved in remarkably technical actions. For example: “(EF03MA09) associate the quotient of a division with zero remainder of a natural number by 2, 3, 4, 5 and 10 to the ideas of half, third, fourth, fifth and tenth parts” (BRASIL, 2017, p. 285); “(EF02MA09) Build sequences of natural numbers in ascending or descending order from any number, using an established regularity” (BRASIL, 2017, p. 281); “(EF03MA15) classify and compare flat figures (triangle, square, rectangle, trapezoid and parallelogram) in relation to their sides (quantity, relative positions and length) and vertices” (BRASIL, 2017, p. 287); or even, (EF03MA26)

solve problems whose data are presented in double-entry tables, bar or column charts” (BRASIL, 2017, p. 287).

It is important to highlight that other skills described in the same document can be developed in more complex perspectives, as they are not just technical. As an example, we highlight: “(EF01MA19) Recognize and relate values of coins and bills of the monetary system” (BRASIL, 2017, p. 279). This could be related to reflections on monthly salaries and expenses. “(EF03MA05) Use different mental and written calculation procedures to solve significant problems involving addition and subtraction with natural numbers” (BRASIL, 2017, p. 285). This could be developed through the valuation, oral or written, in ways different from those traditionally presented by teachers, in ways to solve problems in the daily life of EJA students.

It is also important to highlight the influence that this public policy exerts over others. Especially the National Textbook Program (PNLD), which distributes books and other teaching materials free of charge to public school students.

The alignment of teaching materials to the BNCC is essential to support both student learning and teacher training. This must all happen considering the knowledge, skills and competences that the document determines. This alignment is done through the National Textbook Program, the PNLD (MOVIMENTO PELA BASE, 2020, p.1).

Between 2019 and 2020, according to data from the National Education Development Fund, around 32 million students in 123,000 schools benefited from PNLD. This material must follow the standards, guidelines and skills established by the BNCC. Thus, it manages to ensure that the implementation of this document is carried out in a comprehensive manner, and facilitates the implementation of the next steps that involve the training of teachers for the use of these materials and of the BNCC itself. It also facilitates the application of evaluations and monitoring of teaching and learning processes (UNDIME, 2019, p.4).

#### **4. Final considerations**

The perception of how far the BNCC is from proposals aligned with ethnomathematics can be seen in reflections proposed by D'Ambrosio (2021). He was asked about BNCC, if it could be considered as a process of colonization and standardization. He replied that proposals of this type are impositions aimed at controlling. They are contrary to the ethnomathematics proposal that involves “letting the child think, create, give opportunities, provoke, do things” (p.12).

That way you have no education. What you have is indoctrination, is discipline. With that, you create the individual without any critical capacity, without any capacity to reflect on what is going on, and on what he represents in the context. It has no capacity. He asks himself: How am I going to solve this problem? I will wait for the instructions that come. I am told to do this and I do it. [...] All this I think has to be analyzed in this context (D'AMBROSIO, 2021, p.12).

This discipline prevents mathematical curriculum practices from possibilities of “knowing-with instead of knowing-about” (SANTOS, 2019, p. 216). They take away the autonomy of the professors in the search to respect their students' different learning rhythms and interests. They reduce the spaces in which knowledge from, for example, resistance struggles against single, dominant and colonizing knowledge could be present.

The “know-with” does not involve mechanical recipes. Due to its strong appreciation of diversity, in a movement to fight domination, in different ways. This movement, according to Santos (2019, p.216) involves sharing actions and experiences, opening up the past to better understand the present and the future. It also involves opening dialogues with men and nature.

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