Historical and formative aspects of the first Chemistry teacher training course in Ceará (1962-2019)

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Abstract
This research investigated the origins and development of the first course of Chemistry teacher training in Ceará, offered by the Federal University of Ceará, identifying advances and obstacles in relation to teacher training throughout its existence. The study, with a qualitative approach, was developed from documental research and Oral History through reflective interviews. As interlocutors, there were three professors who experienced the creation and/or reformulations of the course. The data reveal that the course emerged as an appendix of the bachelors, with little concern for training teachers, since what was sought was to meet the interests of the industry. With the dissociation of day courses and the creation of the night degree, which tried to establish a professional teaching identity of its own, few advances were achieved, since the course is still influenced by technical rationality.

Keywords
teaching; teacher training; Chemistry teaching degree.

Aspectos históricos e formativos da primeira licenciatura em Química do Ceará (1962-2019)

Resumo
Esta pesquisa investigou as origens e o desenvolvimento do primeiro curso de licenciatura em Química do estado do Ceará, ofertado pela Universidade Federal do Ceará, identificando avanços e obstáculos em relação à formação docente ao longo de sua existência. O estudo, de abordagem qualitativa, foi desenvolvido a partir da pesquisa documental e da História Oral com a realização de entrevistas reflexivas. Como interlocutoras, participaram três professoras que vivenciaram a criação e/ou as reformulações do curso. Os dados revelam que a licenciatura surgiu como apêndice do bacharelado, havendo poucas preocupações em formar professores, pois o que se buscava era atender aos interesses da indústria. Com a dissociação dos cursos diurnos e a criação da licenciatura noturna, que tentou firmar uma identidade profissional docente própria, poucos foram os avanços alcançados, visto que o curso ainda se encontra influenciado pela racionalidade técnica.

Palavras-chave
docência; formação de professores; licenciatura em Química.

Aspectos históricos y formativos de la primera licenciatura en Química en Ceará (1962-2019)

Resumen
El estudio investigó los orígenes y el desarrollo del primer curso de educación superior para profesores de Química en el estado de Ceará, ofrecido por la Universidad Federal de Ceará, identificando avances y obstáculos en relación a la formación de profesores. El estudio, con enfoque cualitativo, se desarrolló a partir de la investigación documental y la Historia Oral a través de entrevistas reflexivas. Participaron de la investigación tres docentes que habían vivido la creación y/o reformulación del curso. Se vio que la formación docente surgió como un apéndice del bachillerato, con poca preocupación en la formación de docentes, pues lo que se buscaba era atender los intereses de la industria. Con la disociación de los cursos diurnos y la creación de la carrera nocturna, que pretendía establecer una identidad profesional docente propia, se lograron pocos avances, ya que la carrera aún está influenciada por la racionalidad técnica.

Palabras clave
docencia; formación de profesores; licenciatura de Química.

1 Introduction

The first incursions of Chemistry in Ceará, presumably, happened with teaching. Its foundations started to be introduced in state and private schools, beginning with Ceará State School, now named Ceará High School, founded in 1845, followed by Imaculada Conceição School, a private institution founded in 1865, both located in the capital Fortaleza (SILVA *et al*., 2011).

It is not possible to affirm when Chemistry was included "[...] on the academic curricula of the mentioned institutions, the same way it is not known the background of the teachers who taught this subject [...]" (SILVA *et al*., 2011, p. 27), which had low visibility when compared to the studies of Mathematics, Portuguese, and Latin, for example. This local scenario mirrored the national since the scientific expansion of the country was not absorbed by the school curriculum on the same frequency.

On higher education scope, the study of Chemistry in Ceará was through the teacher training courses offered by the Pharmacy and Odontology Faculty (1950), the Agronomy School (1950), and the Medicine Faculty of Ceará that, along with the Law Faculty (1946), originated the University of Ceará (UC) in 1954, that started being administrated by the federal government in 1965 when it was named Federal University of Ceará (UFC). The ones responsible to teach the chemistry subjects in those courses

were professionals from Health and Agronomy areas, reality that was common on national scope. Such situation lasted for a long period in the country, even after the creation and expansion of the first Chemistry courses.

The issue of teaching formation, in this context, was relegated, since the focus was the formation of chemists to meet the industrial interests in potential extension in Ceará, and not on teacher training. With the Francisco Campos Reform, in 1931, which made mandatory the teaching of Chemistry "[...] in the two final years of middle school and in the two grades of the supplementary stage for entry to higher education courses in medicine, pharmacy, dentistry, engineering and architecture" (MESQUITA; SOARES, 2011, p. 165), the Chemistry teacher training became target of discussions in the country, resulting in different formative projects, which still influence the current graduation courses.

In the 1930s, the first courses focused on Chemistry teacher formation were created in the country. According to Mesquita and Soares (2011), until 1965 there were only 13 courses offered by state and private universities around the country. Based on data from National Institute of Educational Studies and Research Anísio Teixeira (INEP), the authors indicate that one of those first courses was offered by UFC in 1958.

However, the research that resulted in this study, from a master's thesis presented at UFC's Post-graduation in Education Program, verified that the referred course was created and began working only in 1962, under UC's Faculty of Philosophy, Sciences, and Letters (FFCL). What happened un 1958 was the creation of UC's Institute of Chemistry and Technology (IQT) (SILVA, 2020).

Thus, it is worth questioning: How was the creation process of the first Chemistry teacher training in Ceará? Which concept of teaching based and still bases the course curriculum? Searching for the answers to those questions, this study investigated the origin and the development of the referred course, offered by UFC, identifying the advancements and obstacles related to the pedagogical training of its students.

2 Methodology

The study, of qualitative approach, was developed from research of documents and of the Oral History (OH) as technique. This combination was due to the understanding that:

> The written archives hardly reveal the tortuous intricacies of decision-making processes. Many decisions are made through oral communication, through personal articulations; the number of problems solved by telephone or personally is constantly growing. To fill in these documental gaps, oral testimonials prove to be of great value. (FERREIRA, 2002, p. 324).

Thus, OH allows rescuing the individual as a historical subject part of this process, giving and echoing voices that have not been heard and that history has not yet told (FIALHO *et al*., 2020). The research was submitted to UFC's Ethics Committee, approved with Report number 3.710.975 and Certificate of Ethical Appraisal Submission number 24730619.9.0000.5054, having as social field the UFC's Pici campus, in Fortaleza, responsible for offering the first Chemistry teacher training of the state of Ceará.

The data was produced in two different moments. The first was the search for written documents related to Chemistry teaching course on the coordination of the course itself, located inside the Organic and Inorganic Chemistry Department (DQOI), on building 940 at Pici campus, in Fortaleza. Some documents were provided by one of the interviewed professors, who worked as a coordinator of the course soon after its creation. We found some institutional documents that were not digitalized, but only 55 concerned the Chemistry teaching formation course.

On the second moment, we interviewed former and current professors of the course, who, for a certain period, witnessed its creation or reorganization. We used a reflexive interview, characterized "[...] by the researcher's disposition to continually share its understanding of the data with the participants" (GATTI, 2018, p. 7), reflexing being "[...] what considers both the recurrence of meanings during any communicative act as well as the search for horizontality" (SZYMANSKI, 2018, p. 15).

Initially, we considered the names of nine professors of the course, between retired and active, among four did not accept to be interviewed. From the remaining five, we concluded, after initial contact via phone, e-mail or in person, that only three were, in fact, potential participants of the research due to having experienced more experiences during the creation and reorganization of UFC Chemistry teacher training. The three professors, therefore, were the interviewees of this study, two of them retired and one still active, identified with fictional names referring to the black chemists who contributed to the development of this science in Brazil and worldwide.

The first individual interview was with Alice, 56 years old, full professor of UFC Chemistry teacher training course, active in teaching, research, and extension at DQOI since 1997. The interview with the other two professors was collective, as requested by them. Marie, 69 years old, was a UFC professor from 1976 to 1999 and taught the Practices of Chemistry Teaching subject on the teacher training course between 1991 and 1998. While Joana, 73 years old, was a UFC professor from 1976 to 1998, experiencing joint experiences with Professor Alice. Joana was one of the key pieces of the implementation and development of the night teacher training course, being its first coordinator.

The narratives of this process represent a discursive production resulting of the oral register of historic and social subjects. With authorization of the interviewees, the interviews were recorded in audio, transcribed, and, later, sent to the interviewees to be corrected and validated. After this process, we begin the data analysis by presentation and discussion of the historic events about the course in a chronological perspective, as shown below.

3 From the Agronomy School to the Institute of Chemistry and Technology

Showing a curriculum including studies of Chemistry, the UC Agronomy School (EA) started to group them in departments in 1938, resulting on the Department of Chemistry (which included Analytic and Organic Chemistry) and on the Department of Agricultural Chemistry (which included Agricultural Chemistry and Rural Technology), under the coordination of professors Ésio Pinheiro and Agenor Maia Ferreira, respectively (SILVA *et al*., 2011).

The EA buildings included the Chemistry laboratories of the university, where it is worth highlighting the work of Professor Manuel Mateus Ventura, full professor of Agricultural Chemistry, understood as the birth of Biochemistry in Ceará. Though his work did not have a direct relation with Chemistry teaching formation, it was from his actions that Chemistry was consolidated in Ceará, which resulted in the creation of the bachelor's and licentiate degrees later.

Due to his studies in Chemistry, Professor Ventura was invited by the then UC rector Professor Antônio Martins Filho, to create the first Institute of the university, named

Institute of Chemistry and Technology (IQT), inaugurated in 1958. This enabled many changes in Chemistry in Ceará, contemplating, initially, research development and, later, teaching.

In 1961, UC's FFCL was created considering the regional needs concerning high school teachers, experts in education, and researchers, being responsible for training those who were interested in teaching, representing a historic milestone of the organization and implementation of those courses in the state and consonance with the national scenario.

Still in 1961, the first teaching activities at IQT started, previously dedicated only to research, now with classes of Fundamentals of Chemistry taught by professor Antônio Enéas Mendes Bezerra to high school students who had interest in applying for the first undergraduate class in Chemistry in Ceará, at UC, in 1962 (SILVA *et al*., 2011). Thus, the first class was offered and had its first graduates in 1965, as bachelors, and only a few decided to take the following teacher training course, whose first graduates were from 1967.

In 1963, UC established that its basic Institutes would teach the basic subjects to their respective bachelor degrees courses and FFCL would teach the pedagogical subjects to those who wished to follow a teaching career. At the beginning, IQT worked with a reduced teaching staff, due to which professor Ventura was responsible for many subjects, such as Inorganic Chemistry, Physical Chemistry, and Biochemistry.

What is known from this period is that Chemistry is Ceará was molded by research and teaching developed by bachelors directed to industry. Some of those professionals did not have a technical formation and practices of Chemistry yet, still, did the works required to them, since part of the processes developed on the industry did not demand a high professional expertise and the number of chemical professionals in the state was low.

4 The morning articulated license degree to the bachelor's degree: the beginning of the teacher training

The base of the Chemistry courses curricula in discussion was the knowledge of a bachelor chemist, whose curricular matrix consisted of two circles: one, which corresponded to the first year, included basic subjects such as Calculus, Physics,

General Chemistry, General Biology, Introduction to Statistics, and Organic Chemistry I; the other, named professional circle, corresponded to the rest of the course and included subjects directly related to the chemist's professional performance. After concluding the bachelor's degree, those who wished to teach had to take the pedagogical subjects at FFCL, following the 3 + 1 curricula of the period, fostering a technicist formation.

For a long time, the course faced a series of difficulties to continue working, such as lack of material and laboratory equipment, infrastructure for classrooms and laboratories for practical classes, few professors for the teacher training course, and low number of students interested in entering the undergraduate program in Chemistry.

Several national and international projects were created by the professors of the course aiming to raise money to improve the professors' working conditions and the students' formation. Hence, it was expected an increase of the experimental course load, improvements of the students' performance both on labor market and post-graduation, decrease of the dropout rate, and increase of the demand for places in the vestibular for admission to the course.

The efforts to improve the course through the created projects did not have, minimally, the goal to value the teacher training, since the search was for investments for pure research, therefore, to develop science and technology, despite the fact that there was a morning license degree. Thus, the issue of the students' teacher training was relegated.

Logically, increasing the quality of the students' Chemistry formation was essential for their professional development, but such actions already reinforced the perspective of the course practical formation. The socialization of a teacher identity (DUBAR, 2020) apart from the bachelor's degree was not put on the agenda, because what we had was the atrophy of teaching education as there was more investments in chemical training for laboratory research dissociated from discussions about its teaching.

There was an awareness that "*[...] the students of the Chemistry course were considered weak"* (JOANA, 2020, interview), even by other departments of the university and, in this moment, it started developing activities related to teaching in order to improve this situation, starting by offering holiday courses to students who had more learning difficulties, since the number of students who failed the different course subjects were high. The search for scholarship for the students was described by the professor as an

alternative to "*[...] increase the quality of the course and make students more dedicated*" (JOANA, 2020, interview) to their studies.

The referred professor highlighted that the morning course had a few students, and many dropped out, besides others who, due to their work, could not fully dedicate themselves to studies, ended up accumulating failures and entered in the process of jubilation. Given this scenario, Professor Joana (2020, interview) said that the idea arose to create the night degree, otherwise the day courses would close.

From what is possible to observe, the creation of a night license degree course was an action that did not aim to improve the offer of Chemistry teacher training courses for the schools of basic education in the state, but to protect the morning bachelor's degree course, since the presence of students who worked and could not fully dedicate themselves to the course affected its quality and put on discussion the conditions that the course had to continue existing.

Facing this reality, it was necessary a disassociation between the morning license and bachelor's degrees, in which the license degree became an evening course and the bachelor's degree in Chemistry would continue to be in the morning. Professor Joana (2020, interview) highlighted that this migration of the morning course to the evening would make possible that university students who had failures could finish their courses – though it would take longer, therefore, they would not face jubilation – and, at the same time, would improve the morning bachelor's degree and decrease the levels of failure.

The creation of the evening license degree was not an easy process once it did not have an effective participation of the professors of the two Departments of Chemistry of the university. The difficulties and challenges on the creation and implementation processes were not exclusive of UFC. Studies such as the ones from Massena (2010) and Tres (2018) revealed the clashes and power struggles marked the creation of other evening license degree courses in Chemistry around the country.

5 The end of the morning license degree course and the beginning of the evening license degree course

In a scenario of creation of several evening license degrees around the country after the Law number 8.539, from December 22, 1992, the UFC evening license degree

course was created on September 22, 1994, through Resolution number 39 of the University's Council for Teaching, Research, and Extension (CEPE).

According to Silva *et al*. (2011), the UFC's morning and evening license degree courses in Chemistry have always had a course load lower than the bachelor's degree, indicating a tendency that the teacher training would be a mirroring of the bachelor's degree, but less demanding due to the fact that its students were not able to fully dedicate to the studies like the ones from the bachelor's course. Professor Marie (2020, interview) confirmed this understanding by affirming that, on the creation of the evening license degree course, it was thought "*[...] to be a lighter course*", but which would not fail to work on the chemical knowledge of the university students.

In counterpoint, Professor Joana (2020, interview) said that the night license degree:

> *It was molded totally different from the morning The morning was more focused on the bachelor's degree student. If one wanted to take the full license degree in the morning period, all they had to do was to take five pedagogical subjects and they would become a teacher, which made no sense. When the night school was designed, it was designed so that the students who aspired to be teachers would be able to build chemical knowledge.*

The perspective of the Chemistry teacher training course narrated by Professor Joana (2020, interview) in counterpoint of the curricular matrix of the course shows divergence concerning the goal of the evening license degree course. If it intended to break or minimize the presence of the technical rationality in force until then, little or nothing was changed, because the curricular matrix continued with a low number of pedagogical subjects, but with a new distribution so that they would not be concentrated only at the end of the course.

It is important to highlight that the morning and evening licenses degrees did not have a Pedagogical Course Design (PPC), created only in 2005, and choosing certain subjects to be taken on the Chemistry teacher training does not represent a neutral act, apart from social, historical, cultural, and political events of the time because the curriculum is a document that expresses power relations (MOREIRA, 2021).

In the case of the analyzed course, the choice of this knowledge, as it turns out, was made from within a bubble among the Professors of the DQOI itself, who were essentially bachelors and linked to laboratory research. Academic units such as the

Faculty of Education (Faced) did not participate in the processes of creating and reformulating the day and night degrees in Chemistry, which could have contributed to improvements in the teaching education of the students. The curriculum of the course sought to bring the education of the licentiate closer to that of the bachelor but did not allow the licentiate to have the same social and academic prestige.

The search for students to enter the evening license degree course in Chemistry was a constant work developed by Professor Marie (2020, interview), who constantly invited "*[...] students who went to Pici campus to enroll in the course*". Linked to it, the Professor also tried to conquer what, at the time, was called "*[...] a work scholarship, so that the students could dedicate themselves more to the course*" (MARIE, 2020, interview).

A report released in 2000 by the Ministry of Education (MEC) through a Committee of Experts in Chemistry Teaching (CEEQ) which evaluated all UFC Chemistry courses warned about the need of improving the teacher training concerning the pedagogical part, since the high-quality scientific formation of those teachers was disproportionate to their pedagogical formation, considered fragile by the report (SESU, 2000).

Professor Alice (2020, interview) narrated that the 3 + 1 curriculum, which influenced the evening license degree course, for a long time: "*It overloaded the discipline of [Teaching] Practice. Since it is offered to students in their last year, where only at this moment the didactic and pedagogical subjects enter, the discipline of Practice acted as a sensor in terms of content*".

Thus, there was not an integration between pedagogical knowledge and specific Chemistry knowledge in most of the graduation course, which basically happened at the end of the course on the Practices of Chemistry Teaching subjects. Facing those events, it was possible to verify that the goal was to build an evening course with its own identity, but the return was a curriculum that reproduced the technicist thought on the teacher training used since the morning license course.

6 The emergence of the first PPC

The creation of a PPC for the Chemistry teacher training followed Resolution number 1, from February 18, 2002, and Resolution number 2, from February 19, 2002, of

the National Board of Education (CNE), which instructed the first National Curriculum Guidelines for the formation of basic education teachers in Brazil, as well as the minimum course load. During this period, UFC created a Working Group for Undergraduate Studies (GTL) to discuss and elaborate institutional guidelines to subsidize the creation of the PPC of all degrees at the University (SILVA; CARNEIRO, 2021).

Perhaps, since it was not mandatory, its creation was delayed for a few years, since it was not detected a specific concern of the DQOI, responsible for the course, in producing those changes. Professor Alice (2020, interview) said that to build this document, "*[...] there was a joint effort of the Department for its elaboration and this PPC guided the guidelines of the course until recently*".

The presentation of the PPC is described as "[...] the compromise of the course is not only teaching Chemistry but, especially, awaken students to their teaching vocations so that they are also capable of teaching how to teach" (UFC, 2005, p. 3). The teaching understanding expressed in this excerpt is of teaching as a vocation and not as a work. Teaching a profession that is built socially is, at the same time, deprofessionalizing it and deconstructing its identity which "[...] could be understood as a movement, as a dynamic and mutable construction process, starred by historically situated subjects" (GUIMARÃES; COSTA, 2022, p. 7).

The items included on the PPC outline that, initially, the licentiate formation would be resigned to include elements of teaching in accordance with the demands of society for a teaching work to be more inclusive, critical, and dissociated from the baccalaureate thinking but falling in traps created by the document itself, it was possible to notice that this discourse did not substantiate the proposed curriculum, being another varnished discourse that propagated what the legislation in force at the time required.

In the course, the Supervised Curriculum Internship did not have a law to regulate its operation. The actions directed towards the moments understood as internships were linked more to research activities than to teaching. The teaching internship was the responsibility of the discipline of Chemistry Teaching Practice.

With the creation of the PPC, there were improvements in the configuration of the internship and the disciplines of Chemistry Teaching Practice, which remained dissociated, but came to be seen as redeemers of the pedagogical training of students, since they were the only disciplines that integrated the pedagogical and chemical

knowledge existing in the course. However, the PPC expresses a perception of internship as a moment of reproduction of what students will observe in basic education schools, that is, as a moment of practice dissociated from theory, and not as a moment of teaching praxis (SILVA *et al*., 2021).

Besides the mandatory subjects, the PPC established 37 optative subjects that could be taken by students. As seen on the 1995 curricular matrix, the 2005 version continued directing to license degree students optative subjects linked to the bachelor's degree. Those could, inclusively, be taken in the morning period, as there is no subject dedicated to teaching or lecturing, much less offered by other academic units, such as Faced. The distancing between the Chemistry teacher training with Faced, by the way, still exists nowadays, a fact acknowledged by Professor Alice (2020, interview), who complained about this distancing while acknowledging the course itself as being partly to blame for this situation.

The transformations of the PPC did not evidence ruptures or stagnation of old pedagogical practices on UFC Chemistry teaching training. From what it is possible to see, through curricular changes, the course has not yet been able to disengage itself from its strong bachelor's degree dependencies because its professional identity is still mirrored in the bachelor's identity.

The socialization that would allow the disengagement of this situation did not occur organically (DUBAR, 2020), making it difficult to conceive teaching as a profession with its own knowledge and actions, and therefore distinct from the profession of the chemist bachelor. After all, according to Maldaner (2020, p. 45), "[...] it is different from knowing the contents of chemistry, for example, in a chemistry context, than to know them in a context of pedagogical mediation within the chemical knowledge".

7 Perspectives and challenges: Where is teacher training headed?

The exercise of teaching demands knowledge specific to this profession, going beyond the simple understanding that, in the case of Chemistry, it is sufficient to have mastery of its content for the teacher to perform their duties successfully. In the course under study, few attempts were made to raise the quality of teacher education, since,

even with the creation of its only PPC in 2005, the evening degree course is still influenced by the baccalaureate thinking of the old morning courses.

In 2013, there were some adjustments on the curricular matrix of Chemistry license degree that did not result in the creation of a new PPC. Those adjustments were almost unnoticeable for the students' formation due to the fact that nothing was substantially done to ensure a self and solid identity to the course. The highlight was the diversification of optative subjects in the Education field, which before were basically focused on Chemistry formation.

The prioritization of studies and research in Chemistry dissociated from discussions about its teaching in the undergraduate course in Chemistry is, in part, influenced by the Postgraduate Program in Chemistry of the DQOI itself, which, since its origin, has left aside the area of Chemical Education. Only recently has this area been included in the Program, but the teachers who present links with this area are rare, and these links are still initial. As an example, Professor Alice (2020, interview), who works in the program, said to be guiding some master's students in the area and that she wants to offer courses in Chemical Education in the Program in the future, but her main relationship is with research outside this area.

During this research, a new PPC was being prepared for the license degree course in Chemistry, to which it was not possible to have access since it had not been finalized at the time. However, Professor Alice (2020, interview) stated that the new document is seeking to prioritize improvements in the pedagogical training of students. With a more coherent pedagogical project for a teacher training course, it is expected that changes will be made that will allow students to identify themselves as Chemistry teachers.

It is worth highlighting that, in 2015, new National Curriculum Guidelines were instituted for the training of basic education teachers in Brazil through Resolution number. 2 of July 1, repealed by Resolution number 2 of December 20, 2019, which defines the current National Curricular Guidelines for initial teacher training and instituted the Common National Base (BNC) for the initial training of basic education teachers, the so-called BNC-Training, harshly criticized by the academic community and scientific associations for being aligned with a neoliberal proposal for Brazilian education, weakening teacher training and their work (SILVA; CARNEIRO, 2022).

The UFC Chemistry teacher training degree course, however, has not yet considered these changes in its curriculum, which is expected to have occurred in the creation of the new PPC. At the same time, these guidelines present themselves as another challenge to be faced by the DQOI, if the Department seeks, in fact, to design a critical and reflective teacher training for students, especially in opposition to the pedagogy of competencies that is underpinning the BNC-Training, making it difficult to think of teacher training beyond technical rationality.

8 Closing remarks

In a general analysis, it was possible to conclude that the UFC Chemistry teacher training, throughout its trajectory, was little concerned with issues related to the identity and teaching professionalization of the students, having been thought of more as a mirror image of the bachelor's degree course than, in fact, as a teacher training course. The documents analyzed and the teachers' statements reveal a distance between pedagogical training and the specific training of the students.

The Chemistry teacher training curriculum, since the morning mode, has professionalized the students more towards research in pure chemistry, deprofessionalizing them for teaching and, consequently, for the teaching profession, which may harm the construction of the professional teaching identity of the students, who will soon work as Chemistry teachers in basic education.

With the creation of the evening teacher training course, significant changes, even if timid, were only noticed in 2005, through its first PPC. In 1995 and 2013, no documents were found that would allow a deeper analysis of these periods, since what is known is that in both periods no other PPCs were created. In 2013, no documents were even found about the changes that occurred, except for the curricular matrix, which did not change in the compulsory subjects.

In summary, the creation and reformulations of the Chemistry teacher training degree occurred without much concern for inserting the academic community that integrates the course in the discussions, such as the students themselves and other academic units of the UFC. This represents the departmentalization of actions that should be democratic and contemplate the entire academic community, since this is a teacher

training course, whose power struggles will reverberate directly in the performance of students when they are working in basic education. The structuring curricular conception of the course, which is technicist, was evoked by the influence of its own teacher educators, who are hegemonically linked to research dissociated from discussions about teaching and education, even those who are graduates.

Based on what was discussed in this study, it is understood that the UFC Chemistry teacher training course was shaped in accordance with the conjuncture experienced at the time, which demanded more chemists for the industry than teachers for basic education. Even though it has undergone changes in its curriculum, what has remained is the institutional understanding of technical rationality.

It is hoped that other developments regarding the UFC Chemistry teacher training course emerge in light of the construction of the new PPC so that the pedagogical formation of the students is improved and gains prominence in the curriculum and in the pedagogical practices of its professors. New challenges arise for the course in the face of the BNC-Training, of 2019, elaborated to direct the curriculum of teacher training courses in Brazil under the neoliberal logic, which will demand a collective effort from DQOI to create strategies that aim to bring the least possible damage to the pedagogical training of the students of the course through its implementation in the PPC. Even in the face of existing problems, the course is able to raise its quality, generating its own professional teaching identity.

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