

## Knowledge and curricular practices: an analysis on a university-level healthcare course\*

Saberes e práticas curriculares: um estudo de um curso superior na área da saúde

Saberes y prácticas curriculares: estudio de un curso superior en el área de salud

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### ABSTRACT

Implementation of curricular guidelines for undergraduate dentistry courses has made it possible to restructure the curriculum in this field in Brazil. However, changing the legislation is not enough to modify the training. The aims of this paper were to analyze and rethink the role of the dentistry curriculum, through focusing on its dynamics, knowledge and practices. The study involved document analysis and interviews with the players concerned with the educational scenario of the dentistry school in question. Integrated clinical practice was chosen as the central object of this study, because this discipline is considered to be the backbone of the curriculum. Four guiding types of rationale were revealed within the curriculum dynamics: integration, fragmentation, professionalization and market rationale. These types of rationale are not isolated, but interlinked, thereby producing a hidden curriculum marked by various contradictions to the official one.

**Key words:** Curricular guidelines. Curriculum. Dentistry. Integrated clinical practice.

### RESUMO

A implantação das diretrizes curriculares da graduação em odontologia significou uma possibilidade de reformular os currículos dessa área no Brasil. Mas mudanças na legislação não bastam para mudar uma formação; analisar e repensar o papel do currículo de odontologia, focalizando sua dinâmica, saberes e práticas foram os objetivos deste artigo. O estudo envolveu análise de documentos e entrevistas com atores envolvidos no cenário educacional da faculdade de odontologia investigada. A clínica integrada foi escolhida como objeto central do estudo porque se considera essa disciplina o eixo vertebral do currículo. Revelaram-se quatro lógicas norteadoras da dinâmica curricular: da integração, da fragmentação, da profissionalização e do mercado - não

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estanques, mas entrelaçadas, produzindo um currículo oculto marcado por diversas contradições com o oficial.

**Palavras-chave:** Diretrizes curriculares. Currículo. Odontologia. Clínica integrada.

## RESUMEN

La implantación de las directrices curriculares de la graduación en odontología ha significado una posibilidad de reformular los currículos de este área en Brasil. Pero los cambios en la legislación no bastan para cambiar una formación; analizar y repensar el papel del currículo de odontología, enfocando su dinámica, saberes y prácticas han sido los objetivos de este artículo. El estudio abarca análisis de documentos y entrevistas con actores vinculados al ámbito educacional de la Facultad de Odontología investigada. La clínica integrada se ha escogido como objeto central del estudio porque se considera tal disciplina como eje central del currículo. Se revelan cuatro lógicas norteadoras de la dinámica curricular: la de la integración, de la profesionalización y del mercado, no estancadas sino que entrelazadas, produciendo un currículo oculto marcado por diversas contradicciones en relación con el oficial.

**Palabras clave:** Directrices curriculares. Currículo. Odontología. Clínica integrada.

## INTRODUCTION

The purpose of this article is to present the results of investigation regarding the dynamic, knowledge and curricular practices of the undergraduate dentistry course of the School of Dentistry at the Federal University of Uberlandia, MG, Brazil (Faculdade de Odontologia da Universidade Federal de Uberlândia – FOUFU).

In 2002, implementation of the national curricular guidelines of undergraduate courses in dentistry (Brasil, 2002) expanded the debate regarding changes in the curriculum at dentistry schools throughout the country. The document made the possibility of changes in the curriculum more concrete, in addition through the flexibility which marks the process of change, taking into consideration the particular characteristics of the dentistry schools in the country. The document defines the following professional profile:

[...] dental surgeon, with a general dentistry educational background, humanist, critical and reflexive, to act at all levels of attention to health, based on technical and scientific rigor. Qualified to exercise activities regarding oral health of the population, guided by ethical and legal principles and by understanding of the social, cultural and economic reality of their environment, directing their activity to transformation of reality on behalf of society [...]. (Brasil, 2002)

The same document furthermore indicated that the essential contents of the undergraduate course in Dentistry must be related to the health-illness process of the citizen, family and community and integrated with the epidemiological and professional reality.

Taken as the standard for innovation, the directives undoubtedly represent a major task for institutions of higher education given the new elements they introduce, which indicate forms of organization and management of teaching processes heretofore unseen in higher education in Brazil (Ciuffo, Ribeiro, 2008).

Feuwerker and Almeida (2004) and Silveira (2004) emphasize that during the process of constructing changes, it is necessary to construct and preserve the collective spaces for debate and critical reflection, especially because the challenges are many and gaps of knowledge are also frequent, not to mention that interests are often in conflict.

[...] Reflection regarding curriculum reform of the undergraduate course in Dentistry must be taken on seriously so as eliminate the risk of reforms becoming a dead letter which do nothing to change the educational reality. Concern must go beyond reorganization of content, subjects, class hours and length of the course. It is necessary to rethink the true purpose of Dentistry courses within the university project, thus seeking to understand this project [...]. (Lemos, 2005, p.80)

Analysis of the curriculum presents the possibility of knowing the reality of Dentistry education. According to Sacristán (1998, p.30),

[...] strategically speaking, the curriculum is one of the most powerful concepts for analyzing how practice is sustained and expressed in a particular manner within a school context. Interest in the curriculum goes along with the interest in achieving a more penetrating interest regarding the school reality.

We believe that for curriculum analysis, it is not enough to simply analyze the content or methodology of classes, but it is necessary to deepen study of the real conditions composing the curriculum, researching their implicit and explicit requirements, an apparently simple task, but one that certainly requires skill. Giroux (1986) considers the existence of an explicit and formal curriculum and another hidden and informal one. According to him,

[...] the nature of school pedagogy must be found not simply in the expressed purposes of the educational and objective justifications prepared by teachers/professors, but in the myriad beliefs and values tacitly transmitted through the routine social relationships that characterize the day-to-day school experience [...]. (Giroux, 1986, p.69)

Metaphorically, curriculum analysis may be thought of as an attempt to disentangle a ball of yarn that is all tangled up. A great deal of care, skill and patience is necessary to unwind it. It is because this ball of yarn (the curriculum) is interspersed with historical, political, economic, social and cultural factors. It cannot be understood from a single perspective for it deserves to be studied as a process since "it is expressed within a practice and acquires meaning within another practice which is in some way prior and does not operate only for the curriculum, but for other determinants. It is the context of the practice at the same time in which it is contextualized by it." (Sacristán, 1998, p.16)

The School of Dentistry of Uberlandia was established in the year 1970 in the context of the expansion of Higher Education in the country out of the main cities, driven forward by the University Reform of 1968 (Brasil, 1968). In October 1975, by Decree-law 76,380, the Dentistry Course of the University of Uberlandia was recognized by the Federal Education Council. On May 24, 1978, by Decree-law 6,532, federalization of the University of Uberlandia occurred, with the dentistry course coming to be part of the Federal University of Uberlandia (Universidade Federal de Uberlândia).

Federalization of UFU in 1977 coincided with a movement of intense discussion regarding education for dentistry led, above all, by the ABENO (Brazilian Dentistry Teaching Association), by the School of Dentistry of the Federal University of Pernambuco, and by the State University of Campinas – Unicamp. The basic themes of discussion were: integration of dentistry teaching, prevention, and viewing the patient as a biopsychological and social unit, and this culminated in the creation of a new curriculum.

## **Methodology**

The subject of integrated clinical practice was chosen as the object of study, denominated as the unit of integrated odontostomatology clinical practice (Unidade de Clínica Odontostomatológica integrada – Ucoei), understanding that it synthesizes various subjects of the dentistry curriculum of the School of Dentistry of the Federal University of Uberlandia (Faculdade de Odontologia da Universidade Federal de Uberlândia – Foufu)<sup>†</sup>. The subject was offered from the fifth to the eighth semester, with around 1,020 hours of exclusively practical activities, which totaled 24.78% of the course hours. It presented an interdisciplinary structure composed by the areas of surgery, restorative dentistry, endodontics, periodontics, occlusion, removable prosthesis and total prosthesis for the purpose of general dentistry education.

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<sup>†</sup> Research was undertaken in the year 2003 based on analysis of the curriculum in effect, implemented in 1986. In that year, the process of reformulation of the curriculum of Foufu had already begun and, in 2007, the new pedagogical project was approved.

In the undergraduate dentistry curriculum, the subject of integrated clinical practice is one of the main center points of general dentistry education and, for that reason, it has been one of the main focuses of discussion of: Poi et al. (2003); Petroucic, Albuquerque Júnior (2005); Cristino (2005); Tiedmann, Linhares and Silveira (2005); Lemos (2003); Reis (2002); Padilha (2002); Almeida and Padilha (2001); Poi et al. (1997); Padilha et al. (1995); Freitas et al. (1992); and Marcos (1991), among others.

In the process perspective, this study is a deepening of previous research (Lemos, 2004), in which the degree of technical knowledge of 35 students enrolled in the subject of Ucoei in the next to the last educational semester was investigated through the application of questionnaires. The results obtained provide indications of the existence of a hidden curriculum in the subject which interferes in student learning, failing to lead the student to a general dentistry education as foreseen by the official curriculum. Such data led us to new reflections and questioning regarding this reality: what modes of reasoning direct dentistry education at the School of Dentistry of Uberlandia? How does Ucoei take shape within this curriculum proposal? How, in practice, does Ucoei take shape and what is the role of students and professors in this curriculum dynamic? Is there a hidden curriculum in Ucoei which interferes in teaching-learning?

To answer these questions, a deeper analysis was undertaken, based on two research procedures: document analysis and political-social analysis of the institution-professor-student relationships, using an oral semi-structured interview as a research technique. The methodological option was the qualitative approach, understanding that this was most appropriate for this matter, due both to the complexity of the field of curriculum investigation, as well as the fact that it requires research tools that more profoundly encompass the reality to be studied.

The documents analyzed were: curriculum frameworks, pedagogical projects and others related to the theme of study. The subjects interviewed were: three professors, two former students – who had already responded to questionnaires from the previous survey (Lemos, 2005) – and the professor who conceptualized the curriculum proposal in effect in the years 2001 and 2002.

The three professors belonged to the teaching staff of UFU. Two are men and one a woman. Two have been in the institution for more than twenty years and one for less than ten years. All are doctors and former students of Foufu. Two of them have been course coordinators, with one of them having exercised this position six times and is at this time director of Foufu. To identify them, we have used the letters A, B and C.

The former students, both men, graduated in 2001 and work in a private dental office in the city of Goiania, GO, Brazil. The students have also been identified by the letters A and B. The former student A has not undertaken any graduate studies. The former student B is currently in a surgical specialization course.

The professor who conceptualized the curriculum proposal graduated from UFMG and became a professor in 1972. From 1978 to 1980, he was coordinator of the course, after which he continued to exercise teaching activities, and retired in 1992.

The interviews are recorded individually and transcribed. All the material (documents and interviews) was organized and classified in analytical categories. Based on qualitative analysis, we sought interpretations and explanations of the problem and the questions that motivated the investigation. Apparently unconnected information (documents and interviews) was compared for the purpose of interpreting the different materials in search of rationale.

### **Results and discussion: understanding the curricular fabric of Foufu**

Based on analysis of the data, four principal modes of reasoning that permeate the curricular structure of Ucoei were determined, namely, the rationale of integration, of fragmentation, of the market and of productivity.

#### **The rationale of integration**

Curriculum integration was one of the main changes of the curriculum implemented in 1986. In the Foufu, the subjects of the professional education course were joined in teaching units: stomatologic diagnosis unit (Ude), integrated stomatologic unit (Uei I), childhood dental unit (Uoi), social and

preventive dental unit (Uosp), and integrated odontostomatology clinical practice unit (Ucoei). In the following section of the interview, the professor who conceptualized the curriculum explains how the educational units function.

[...] For example, a unit that had been created was Ude, the stomatologic diagnosis unit. In the former system, there was a professor responsible for the subject of semiology, another for histology, another for pathology, another for radiology, who worked with fragmented contents, which had to be joined in the student's mind. Under the new concept, all these subjects were joined in a single unit, Ude, which sought primarily to understand disease diagnosis in a global manner. The unit had all the functions, activities, materials, prerequisites, topics, items of the program, which were arranged in a manner so that the student learned to diagnose. In contrast with the former system that worked with isolated topics, which the student afterwards had to put together to arrive at a diagnosis [...]. (Conceptualizing professor)

In theory, the Ucoei was to join all the specialized areas of dentistry. The general goal of the subject was the following:

[...] The student in the Ucoei [...], will apply knowledge acquired in the pre-clinical studies, [...] will develop psycho-motor mastery through execution of the proposed integrated treatment plan in patients with a view toward morphological, aesthetic and functional rehabilitation and maintenance of oral health [...]. (Universidade Federal de Uberlândia, 1986)

Integrated clinical studies are considered a means of contributing to the education of a comprehensive dentist, understanding this professional as someone who masters adequate biological knowledge, and has developed technical capability and social orientation which allows him/her to place himself/herself in the reality of the country. The official proposal of the Ucoei clearly shows the limits of integrated studies because the subject focuses preferentially on clinical treatment and rehabilitation of maintenance of oral health. This fact is related to the idea that Brazilian dentistry is "technically praiseworthy, scientifically debatable and socially chaotic" (Garrafa, Moysés, 1996).

For professors A and B, the goal of the clinic is more directed to a general clinical dentistry education, with a comprehensive view of all the areas of dentistry. This integrated education would then be directed to general clinical dentistry education. Professor C confirms this view: "[...] integrated education is in the idea of a student being able to associate the theoretical and basic content (s)he saw, associated with practical procedure. [...] Currently this broader education is lacking of association of the content with more social aspects, with psychological aspects [...]."

For former student B, the Ucoei teaches more technique. Passed forward by patient screening, "one doesn't know where the patient came from, what his/her financial need is. Many things about the patient are not known." In this sense, the Ucoei does not contribute to broader reflection on attention to health since it is more directed to the rationale of technical competence for the private market and to the "healer" activity discussed by Moysés (2004).

When, however, one compares integrated clinical practice with isolated-discipline clinical practice, one perceives that the former, at least in relation to clinical treatment, is an advance in relation to the second. That is because in integrated clinical practice, the student has the possibility of creating a treatment plan which encompasses all the needs of the patient. According to student B, that occurred in the Ucoei: "I think it attempted to show us that the patient is a whole being. He has gums, he has a tongue, a mouth, a body, an organism."

Another advantage of the integrated clinical practice system of the Ucoei, in relation to the goals of the official curriculum, was the real possibility of concluding the clinical treatment of the patient.

[...] For example, I'm treating a patient who needs care in the area of Restorative Dentistry. And, for some reason, the patient's tooth was quite worn and there was the need to recommend root canal treatment. If it were another clinical practice (non-integrated), I would have to cover the tooth and send him to a specific clinic for root canal treatment (endodontics). In the Ucoei, in contrast, that doesn't happen because at the time there is the need for root canal treatment, I call the endodontics professor who already provides his assessment regarding the clinical case. [...] And there lies the validity of integrated clinical practice. You see? I don't need to keep redirecting the patient and

telling him: today is Wednesday and it's only for restorative dentistry. Tomorrow is Thursday, which is for fixed prosthesis clinical practice. So, today we're going to cover your tooth; tomorrow you come back. There was no need for that in the Ucoei [...]. (Former student B)

Another advance in the Ucoei proposal is the gathering of professors from different specialized areas in the same place. Marcos (1991, p.13) considers that "actually, integrated clinical practice proved to be a bastion of varied specialized areas, gathering specialists that ended up fragmenting the education of the general clinical practice student." Padilha (1998, p.2) says that "the teaching profile specialized into micro-disciplines is considered as the solution for teaching problems, for others (schools) this profile may be considered as the origin of problems."

Although there is the idea that specialized professors, within the limits of their specialized area, would have difficulty in promoting integrated clinical practice education, we consider the proposal of Follari (2000) as acceptable, which defends the conjoined work of professors from different branches of knowledge in undertaking interdisciplinary studies. Jantsch and Bianchetti (2002, p.7-25) believe that in the process of transmitting knowledge, "there must be a tension in the relationship between the specialized areas and generality leading toward interdisciplinarity."

In this perspective, the gathering of specialized professors in the Ucoei creates a real possibility for interdisciplinarity. Botero in Padilha (1998) considers that the specialized teacher profile is ideal for integrated clinical practice because for this in fact to occur, dialogue, interlocution and debate among teachers and students is indispensable.

Interweaving the different voices and analysis of documents, one perceives the attempt at integration of teaching and integrated clinical treatment. The education of the comprehensive surgeon-dentist with adequate biological knowledge, developed technical capability and social orientation which allows him/her to place himself/herself in the reality of the country is not being achieved in the Ucoei, which will be more fully discussed within the conceptual category of fragmentation, which follows.

### **The rationale of fragmentation**

The rationale of fragmentation is manifested whenever there is the possibility of there not being integration between the teaching of dentistry and the education of a generalist professional. One of the problems detected in the curriculum was its fragmentation into the basic cycle and the professional education cycle. According to studies from Reis (2002), 95% of the professors do not consider the basic cycle and professional education cycle well integrated in relation to the final goals of the course. This account from professor A reveals this concern:

I don't think there is any integration. Students have the basic cycle in the 1<sup>st</sup> and 2<sup>nd</sup> semesters and then the professional education cycle begins and there is a total separation. There is no integration, so much so that when the student arrives at the 4<sup>th</sup> semester and restorative dentistry is discussed, cavity preparation, tooth enamel, dentin and tooth reshaping, he doesn't know how to relate this with anatomy, nor histology. Why not? There is a gap there. I don't see integration. (Professor A)

The division between the basic cycle and the professional education cycle is a vestige of the Higher Education reform of 1968 (Brasil, 1968), which instituted the departments and created the division of the cycles for greater rationalization of resources. The influence of the educational reform that Gies (1926) proposed in the USA which disparaged the biomedical and social disciplines and promoted separation of dentistry from medical practices should not be overlooked.

The question of education directed more toward clinical activity, as already discussed in the rationale of integration, is another manifestation of the rationale of fragmentation. For Poi et al. (1997) it is necessary that the university student understand that the illness of each patient does not begin nor end in the individual and in the dentist office, but in a complex interrelation in which economic, cultural, social and political factors interact. But, according to Follari (2000), an epistemological mistake is believing that interdisciplinarity would allow knowledge of the dialectic totality, with enormous capacity for social transformation. "That would be to suppose that problems of the social division of labor could be overcome from an internal modification to scientific practice." (Follari, 2000 p.133).

Thus, it is important to epistemologically verify the limits of Integrated Clinical Practice so as to avoid empty discourse void of real possibilities. Structural problems such as the number of teaching staff, and the quality of screening of patients were indicated by those interviewed as factors which hinder integration of the Ucoei. For professor A,

[...] the goal of the Ucoei is to educate the generalist surgeon-dentist. The goal is excellent, but perhaps the Ucoei is not being well applied. At least at this time, due to the increase in the number of openings without increasing the number of teaching staff, there has been a certain difficulty in putting this goal into practice. But the idea is to educate the general practitioner [...]. (Professor A)

Professors A and C consider that the screening of patients to the school clinic contributes to this fragmentation and must be better planned so as to allow the university student to have contact with diverse clinical cases. The specializing influence of the professors, the specialist mentality in which the students insert themselves and their lack of knowledge of the philosophy of integrated clinical practice lead to the rationale of fragmentation. For professor C,

[...] it is the teaching professional that tries to instill in the mind of the student that works with him (who is the monitor or who has greater proximity with his area) the idea of specializing at an inappropriate time, of seeking refinement or specialized education in a single area. [...] Having a broader discussion regarding the true philosophy of integrated clinical practice has motivated a minority (we have seen what has been achieved by means of corrections in the points of view of the teaching staff), because when the student enters in the fifth semester to undertake Integrated Clinical Practice (Ucoei), he has very little of this integrated perspective. [...] He sees Integrated Clinical Practice as the time of executing a procedure he has learned in theory. Perhaps he will have a better view of what it is in the seventh or eighth semester when he has already acquired this habit of specializing at the wrong time [...]. (Professor C)

Regarding this question, Cristino (2005) considers that the resistance of specialized professors in passing through different areas of the clinical practice is the fact that contributes to the rationale of fragmentation.

The evaluation of integrated clinical practice is another aspect to be discussed. Even if the student performed procedures within a single specialized area, (s)he could be well evaluated, because the evaluation criteria would take into account the students production, and not the variety of cases executed in various areas.

Other problems in relation to fragmentation are bound up with the existence of some areas that function in an isolated way. The case of the social and preventive dental unit (Uosp) came to professors' minds. For the professor who conceptualized the curriculum, the Uosp would have had a relevant role in the curriculum implemented in 1977. The testimony of professors and students showed that the Uosp has an undefined role, and the goal of making dentistry students aware of their social role has not been achieved.

[...] There is surely a gap. The Uosp withdrew a great deal from what it does. It was a subject that dealt with the collective; nowadays, it doesn't talk much about the collective and the reason for its existence is to deal with the collective. It must either deal with the collective, or it loses its reason for existence. What it proposes to deal with, other areas are already taking care of. There really is a deficiency in its goals. **It is necessary that we remain in the professional education area, awakening the student to social awareness [...].**(Professor B, our emphasis).

The dichotomy indicated by professor B is interesting because it shows that the role of the Uosp in awakening social awareness has not been performed, making it necessary that the professors of clinical practice do so. It is as if Uosp were responsible for "social awakening", leaving other professors free to continue their classes without this concern. This is an explicit manifestation of the fragmentation because the patient that goes to the clinic is a whole being, not just a clinical problem. Social awareness is not going to appear automatically in passing from the Uosp to the clinic, as if this awakening were a monopoly, the exclusive sphere of the subjects in the social area. Coêlho (1998) affirms:

[...] there is the myth that the inclusion of certain subjects (Sociology, Anthropology and Philosophy, for example) will make the course become a critical one. The simple presence of these

and other subjects of the same nature would ensure critical education, leaving other professors free to continue their classes without having to concern themselves with this thinking. Passing from one area to another, the critical nature would appear automatically, in a magical way, as if it were the monopoly of certain spheres of knowledge [...]. (Coêlho, 1998, p.9)

In short, the rationale of fragmentation goes against the rationale of integration and, at Foufu, impedes that the intended profile in the full curriculum is achieved.

### **The rationale of the market**

Among the modes of reasoning that direct the teaching at FOUFU, it is fitting to emphasize the rationale of the market, especially visible when market interests prevail in relation to the interests of the teaching-learning process.

In a study undertaken by Lemos (2004), it was observed that the practical program of the Ucoei, although it officially allowed for varied clinical training, was not being fulfilled because of diverse problems, among them a trend toward educational gaps in specialization, through the interest of directing students toward specialization.

Regarding the impossibility of undertaking varied clinical training, the former student A affirms: “[...] This may have something to do with vested interest. Not allowing the student to do so much at Ucoei so that later he needs a specialization course to undertake training that could have been done at UCOEI. Some will have to undertake specialization to take on a dental office [...]”. (Former student A)

These statements confirm Narvai (2003, p.482), who says that there is in dentistry education “a practice, which is unfortunately quite widespread, of teaching poorly in undergraduate studies, reducing content, and leaving essential knowledge for the specialization course.” Costa (1988, p.9) also agrees with that statement: “The demand for non-degree graduate studies courses has been associated with the precarious nature of undergraduate studies, much more than the need for updating.”

Discussed within the rationale of fragmentation, practices directed toward specialization already in undergraduate studies may contribute to the rationale of the market, because the student judges that the market will better receive the specialist, while in practice, he might not get the choice of a specialized area right, as reported by professor C: “[...] When the student is in undergraduate studies, he does not experience all the areas and when he leaves the school and enters in the work market, knowledge of an area in which he did not have good training is often expected of him [...]. He then looks for specialization and updating courses [...]”. (Professor C).

The study of Reis (2002) regarding Ucoei showed that educational gaps (insufficiency) are seen as a “natural” reality at Foufu. Most professors and students consider it “normal”, “natural” that students seek specialization courses after graduation to “resolve” the problems stemming from undergraduate studies.

Some authors indicate a trend for a specialist to be left aside within the work market and the general practitioner being most sought out. The rationale of integration in this sense would be tied to the rationale of the market. For Jantsch and Bianchetti (2002, p.17),

[...] demands are made on the school in the sense that former students have an interdisciplinary and cooperative perspective and are capable of individually performing tasks (one worker, diverse functions or the “three-in-one”) that before were attributed to diverse specialists, being distributed among the functions of planning, executing and evaluating [...].

This fact was shown in this study in the account of professor A:

[...] I offer classes in specialization and updating courses. I have seen this preference from dentists throughout Brazil. Specialists in orthodontics taking a specialization course in restorative dentistry. And when you ask “Why?”, the student answers: “Professor, nowadays you can’t send the patient to another professional. Either you do everything, or you are out of the market.” [...] From the point of view of the professional, he has to be a general practitioner who knows how to do everything well. Because some years ago, it was different. The general practitioner was the one who knew how to do a little of everything [...]. (Professor A)

### **The rationale of professionalization**

The rationale of professionalization occurs when the university gives priority to professional education in detriment to other functions. For Coêlho (1994, p.46), “one of the fundamental presuppositions inherent to this rationale is that schools and universities must always serve the labor market, which in a certain way would justify its existence.” One of the manifestations of the rationale of professionalization at Foufu is disqualification of theory in favor of practical activities.

Practical activities are more valued than theoretical activities. In the period investigated, the total number of course hours was 4,110 (Ufu, 2000). It is divided into 2,745 hours of practical content (66.78%) and 1,365 hours (33.21%) of theoretical content. That means approximately a two to one ratio; in other words, there are nearly two times more practical contents than theoretical contents.

In the two cycles, the theoretical course hours was less than the practical, but in the professional education cycle, the practical course hours were nearly three times greater than the theoretical course hours. Two subjects of the professional education cycle alone concentrated a total of 1,470 hours (35.76% of the total course hours). They are: dental clinic (450 hours of practical course hours), involved more directly with pre-clinical training, and the integrated clinic (1,020 hours of exclusively practical course hours), directed precisely to clinical treatment, without any theoretical course hours. There is clear valuing of practice, especially activities connected with clinical practice and with professionalization.

Another fact that affirms the rationale of professionalization is the high weekly number of course hours in subjects. In the fourth and fifth semesters of the course, for example, nearly all the theoretical contents are offered that will serve as a basis for the clinical practice at the school and in professional life.

[...] Another factor I think that occurs at Foufu is the lack of time to study. The student attends class, class, class... And there is no room for study... (And thus the need for curriculum reform.) That way, the student does not get involved with other activities such as going to a library, developing other work within the subject, making a bibliographical survey, participating in seminars or even studying the matters related to the subject at the time in which it is being offered. And so, the student attends class, hears what the professor says and doesn't study beyond that. It may be that he studies on the eve of tests to get the seventy percent approval and that's it. So, I think that is another factor that hurts teaching-learning at the school [...]. (Professor A)

There was unanimity among the testimonies of the different subjects of the survey regarding the need for reformulation of the course hours. Professor B considers this excess of course hours as truly a “pedagogical massacre”.

The predominance of practical activities, together with the high weekly number of course hours impedes scientifically oriented education and reaffirms technical education.

[...] The emphasis on practical activities, together with the heavy weekly class load privileges the technicism of undergraduate course. If there is no time for study, there is also no time for questioning, critique, reflection and change. There is only room for reproducing ideas and techniques. Classes become the locus for dissemination of results obtained, information and truths to be passed forward, socialized and consumed. The dimension of intellectual work is lost, making it difficult to achieve the profile of the former student proposed by the curricular guidelines of the undergraduate course: a critical, reflexive and transformative professional [...]. (Lemos, 2005, p.82)

If there is no room for study, students are left in the condition of mere receptors of the contents offered in the scarce theoretical classes at Foufu. Professor A believes that although the official curriculum envisages a broader education, technicism is more highly valued because there is no time for study. In this testimony, contradictions appear between the formal curriculum and the curriculum experienced in action:

[...] If we stick to the vision of our prescribed curriculum and the contents described in it, we will consider that Foufu allows for a complete education. **On paper**, the idea is quite nice. But in reality, there is no room for the student to study because of the heavy course load. [...] I believe that

education is not directed only toward the learning of techniques, but the fact of the course load being very heavy too highly favors the question of technique [...]. (Professor A, our emphasis)  
Therefore, more than the concern over the organization of the course load and contents, it is necessary to make Foufu a place of cultivation of knowledge and exercise of thought because a preponderantly technical and practical education is uncertain in a volatile and dynamic market which requires new work profiles every day.

### **Final considerations**

The metaphor of the ball of yarn becomes appropriate to understand the curriculum reality of Foufu. The rationale of fragmentation is interspersed with the rationale of the market, which, consequently, is interspersed with the rationale of integration and professionalization. One rationale does not exclude or outweigh another. At times, one of them converges and then diverges; thus, the curriculum reality of Foufu comes to be constantly constructed and surpassed.

Therefore, the curriculum of Foufu deserves to be rethought, not as a static reality for which it is enough to assess the “strong points and weak points”, because the curriculum, as praxis, requires more than “mere repairs”, and must be rethought in its contradictory historical construction, being build and rebuilt on a daily basis. This study intended to make a contribution to this rethinking.

It is believed that an effective change in undergraduate education presupposes broad actions that involve institutions of Higher Education, the professors, the students, the society and the State. The specificity of the university must be assumed so as to avoid that the market and professionalization come to occupy first place in detriment to thought, critique and creativity. More important than discussing reform from the bureaucratic and legal point of view is to question the meanings of academic life that professors and students construct: the curriculum, knowledge, truth, and history.

As the curriculum area is contradictory and not a closed and static reality, it is possible to reconstruct it based on diverse rationale. The dialecticism of the real opens for us possibilities for seeking that which is new, unexpected, and not in existence; of a reality and curriculum different from that which currently exists. For those that see reality as determined and finished, such discourse may be viewed as utopian. In that respect, we agree with the words of Coêlho (1994, p.71):

[...] Yes, we are confronted with a utopia, in other words, something that does not yet exist, but that is advanced as possible and whose realization (construction as reality) is imposed as an ethical demand for all citizens, particularly for each one and jointly for the professors, students and technical-administrative assistants of Brazilian universities. Contrary to that which philosophy and the sciences lead us to believe in their historical distrust and disregard for imagination, the unreal is also a dimension of the real. Producing that which is imaginary, humans affirm themselves and construct themselves as free beings [...].

In that sense, we share the idea that for a new curriculum, utopia is necessary, seen as something perhaps difficult to visualize at this time, but that needs to be dreamed, articulated and developed. It is necessary to believe, think and act for a different tomorrow.

### **COLLABORATORS**

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