



The curricular limits and their implications in the Experimental Medicine Course at USP (1968-1974)¹

Os limites curriculares e suas implicações no Curso Experimental de Medicina da USP (1968-1974)

Los límites curriculares y sus implicaciones en el Curso Experimental de Medicina de la USP (1968-1974)

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Abstract

The 'Experimental Medicine Course' at USP, which originated in the 1960s, proposed the 'bio-psycho-social' integrality of health and illness in its curriculum. Its teaching method, inspired by the 'Problem-Based Learning' strategy, presented real health situations as a rationale for student-centered learning objectives to solve these problems. The two medical courses at USP in São Paulo—the current one, called traditional, and the new one, experimental—did not have harmonious administrative coexistence. In 1974, they underwent their 'curricular merger.' This text reports semi-structured interviews conducted between 2014 and 2016. The reflections of its then teachers and students support these analyses. They suggest the formation of an idealistic group with a strong identification with the course. The interviews indicate that its foundations were constituted by the voluntary pedagogical training of teachers who imposed limits on the new curriculum.

Keywords: Medical Education. Medical Undergraduate. Universities. History of Medicine. History.

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Resumo

O “Curso Experimental de Medicina” da USP originado na década de 1960 propôs a integralidade “biopsico-social” da saúde e da doença em seu currículo. Seu método de ensino, inspirado em estratégia “Aprendizado Baseado em Problemas”, mostrava situações de saúde reais como racional para objetivos da aprendizagem centrada no estudante para a solução desses problemas. Os dois cursos de medicina na USP de São Paulo – o vigente, denominado tradicional e o novo, experimental, não tiveram coexistência administrativa harmoniosa. Em 1974 passam pela sua “fusão curricular”. Este texto relata entrevistas semiestruturadas realizadas entre 2014 e 2016. As reflexões dos seus então professores e estudantes referendam essas análises. Sugerem a formação de um grupo idealista com forte identificação com o curso. As entrevistas indicam que seus fundamentos foram constituídos em voluntariosa formação pedagógica dos docentes que impuseram limites ao novo currículo.

Palavras-chave: Educação Médica. Educação de Graduação em Medicina. Universidades. História da Medicina. História.

Resumen

El 'Curso de Medicina Experimental' de la USP, surgido en la década de 1960, propuso en su currículo la integralidad 'biopsicosocial' de la salud y la enfermedad. Su método de enseñanza, inspirado en la estrategia del 'Aprendizaje Basado en Problemas', presentó situaciones reales de salud como fundamento de objetivos de aprendizaje centrados en el estudiante para resolver estos problemas. Las dos carreras de medicina de la USP en São Paulo, la actual, llamada tradicional, y la nueva, experimental, no tuvieron una convivencia administrativa armoniosa. En 1974, experimentaron su 'fusión curricular'. Este texto relata entrevistas semiestruturadas realizadas entre 2014 y 2016. Las reflexiones de sus entonces docentes y estudiantes respaldan estos análisis. Sugieren la formación de un grupo idealista con una fuerte identificación con el curso. Las entrevistas indican que sus fundamentos estuvieron constituidos por la formación pedagógica voluntaria de docentes que impusieron límites al nuevo currículo.

Palabras clave: Educación Médica. Educación de Pregrado em Medicina. Universidades. Historia de la Medicina. Historia.

Received: 2023/08/29

Approved: 2023/12/18

Introduction

In the 1960s, nine professors from the Faculty of Medicine of the University of São Paulo (FMUSP) signed a request to create the “Experimental Course in Medicine” (CEM) (Tavano, 2017). The date was October 17, 1966. This new model was the result of a competent reading in tune with its time, throughout the years 1950 and 1970, when new and strategic social demands for medicine emerged. The pattern of population illness changed with the emergence of chronic and degenerative diseases. The emphasis on prevention gained prominence. In this context, the Pan American Health Organization advanced proposals for curricula of medical courses that adopted training in preventive actions. Public Health emerged, coinciding, and probably, with the years of São Paulo's developmentalism, aiming to stimulate its interior (Mota, 2017). CEM aligned itself with this direction. The proposed curriculum innovated at the time by suggesting “bio-psycho-social” integrality, or even the “psychosomatic whole” of health and illness.

The 1960s were enticing for modernization, and the incorporation of a university reform was perhaps its most evident result in the academic field. It provided a high level of scientific and technological investment, with the growth of public higher education institutions as well as new private institutions, expanding undergraduate and postgraduate courses and slots. However, it is noteworthy to observe the "precarious" way these actions were processed, from the quality of infrastructure to the impact on the limited preparation of the teaching staff (Motta, 2014).

In this context, the new Experimental Medicine Course at USP addressed various demands: the government's need for new slots; the faculty's desire for educational modernization; the university's institutional expectations for resources and the "occupation" of the Butantã campus (university city) by FMUSP alongside the University Hospital. The CEM emerged as an innovation (Sobral, 2014), aligned with its time in innovation and renewal in higher medical education. The teaching program of the Experimental Course adapted to the University of São Paulo's reform more easily than the current, or "traditional," medical course program and opened up 75 new slots (Marcondes, 1975).

While the "traditional" curriculum fragmented disciplines and content, adopting the hospital-school as its main scenario, the CEM proposed an integrated teaching model. Disciplines were grouped into "blocks" of organic systems – considered a method closer to reality ("the doctor thinks in an integrated way when dealing with the patient") (Marcondes, 1998). The knowledge under construction by students focused on physiology (normal) and physiopathology (alterations). This arrangement required teachers to be involved in creating activities beyond lectures or seminars; it demanded interdisciplinary teaching. Among students, it required group study and reasoning, a psychosomatic approach, and more supervised professional practice during two years of internship – a significant innovation at the time (Sobral, 2014). In the CEM, this process is based on integrated action between two distinct units of USP: the Faculty of Medicine and the Institute of Biomedical Sciences (ICB). The program's success was anchored in the technical-scientific level, didactic capacity, and enthusiasm of the teachers. However, it is worth noting a distancing from the proposed pedagogical method (educational objectives, teaching techniques, evaluation criteria) reported in recurrent and, importantly, regular curriculum assessments. The "block of disciplines" permeated an "aggregate of teachers." The final years of the CEM differ little from the "traditional" curriculum. Both have the Hospital das Clínicas de São Paulo as the scenario for supervised practice, focused on curative and organicist medicine. There is a clear shift from the model centered on the psychosomatic whole to adaptation to curative, organicist, and individual medicine present in the traditional curriculum (Marcondes, 1975).

The teaching method of the CEM, described as "Problem-Based Learning" or PBL can be defined as an approach that uses cases and (health) problems as a starting point to achieve learning objectives, focusing this learning on the student's effort in problem-solving. The solution involves scientific investigation of the "problem as a problem" that originates and has its meanings and regulations in everyday practical situations (Teixeira, 1955; Cunha, 2001). This didactic disposition underlies the described model centered on the individual, in its complexity, its psychosomatic whole.

Indeed, this strategy was first described as a teaching method by John Dewey in the 1930s. In 1969, PBL was introduced at McMaster University Medical School in Canada, incorporating innovations that began in the 1950s at Case Western Reserve University Medical School in the United States. It is important to mention that Case Western employed a hybrid curriculum, combining PBL with traditional teaching methods – a approach still present in medical schools (Baker, 2000). This framework is best described by a historical timeline. In 1910, the need for medical education with a curriculum based on the scientific method (and in the hospital – the best medical environment at the time) was emphasized in the Flexner report. From the 1950s, a second "wave" introduced instructional innovations, notably with problem-solving or life-situation-based teaching, the mentioned PBL. A third current generation points towards education based on health systems – a perspective different from the analysis proposed in this text (Frenk et al., 2010). It's interesting to note that Dewey is cited by Flexner in his paradigmatic report with an educational identity on medical education and the method presented by John Dewey. Both advocate the same approach to education: learning by doing (Ludmerer, 2011).

In this foundation, the CEM seemed to fall short: due to the lack of uniformity regarding the concept of community medicine; in the distinct psychological and social approaches to observed health problems; with a pedagogical structure subjugated by hospital routines; with stages featuring highly specific casuistic scenarios – distant from the integrative proposal; and related areas, such as neurology and psychiatry, lacking didactic coordination and unification. This apparent fracture will be explored in this text under the hypothesis that this condition is a curricular limitation associated with a likely willful pedagogy of its faculty.

Faculty of Medicine, University of São Paulo, 1968-1974 – The Experimental Course

In this briefly considered historical setting and context, the foundations of the experimental medicine course at the University of São Paulo (USP) were originated.

within the Faculty of Medicine, a new course was established, with administrative and didactic autonomy, aiming for a valid teaching experience that yielded positive results in some aspects. Its purpose was to increase enrollment numbers and facilitate the implementation of new teaching methods, allowing for the integration of curricula and providing greater flexibility. This was done to establish new models for comparison with classical methods of medical education (Lacaz, 1999).

This curricular duality led to extensive debates in the Faculty of Medicine. The implementation of two medical courses at the Faculty of Medicine – the existing one, referred to as the traditional course, and the new CEM with a curriculum considered innovative in health center and hospital settings – did not follow a harmonious administrative coexistence. It is interesting to note how even the newly planned equipment for assistance and teaching was interpreted as inadequacies:

The significant mistake lay in designating the University Hospital (HU) and the Butantan Health Center as exclusive and private locations for the activities of the Experimental Medicine Course. Now, the Faculty of Medicine is a single entity, and discriminations of this nature could no longer persist (Lacaz, 1999).

There was strong opposition, and in 1974, the Experimental Medicine Course (CEM) met its conclusion: the Board of Directors and the Faculty's Congregation incorporated the coexisting courses through a project called "curricular fusion." In 1976, the University of São Paulo (USP) once again had a single medical course (Mota, 2014). According to the leadership of FMUSP, three reasons justified the fusion of the two courses: the legal, administrative, and educational aspects, as having two different courses with distinct didactic and administrative autonomy weakened the institution.

The Faculty of Medicine is once again unified, respecting its past filled with glory and the guiding principles of its exemplary organization... The Faculty of Medicine was splitting, and the division weakens, debilitates... the fusion of one or the other course comes to remedy this undesired legal irregularity, without prejudice to the utilization of both, from positive and constructive aspects, for the benefit of scientific progress and professional training (Lacaz, 1999).

Analyses of the experimental course indicate that the CEM coexisted with political and social disruptions of the period, serving as a product of its time and its contingencies, driven by individuals with the willingness to modify the medical education at FMUSP (Tavano, 2017). There was an intense debate... Other voices, such as Professor Guilherme Rodrigues da Silva, characterized the interpretations beyond the institution: a protagonist of the CEM but in a "prestige-poor area" – the Department of Preventive Medicine – and a representative of opposition to the contemporary government (Tavano, 2017). A few years after the "fusion," Isaías Raw, one of its founders, reflecting on the foundations and future of medicine, emphasizes the surprising everyday experiences of the educational experiments in the course.

It was an immense improvisation, utilizing available time slots, rooms, and laboratories at the University City. There were no resources to acquire equipment or build (the University Hospital, intended for it, was only materialized three years later). Despite its improvisation (the course was "invented" during weekly evening meetings when we discussed the content of the topics of the week and the ideas brought, particularly by Alípio Correia Neto, about the formation of the physician to serve the community) and meager resources, it succeeded in implementing what the then-new medical faculties could not achieve... (Raw, 1994).

In addition to this infrastructure weakness, documents suggest that the military regime of the time and the 1968 Reform underpinned actions, such as compulsory retirements of professors, that limited the CEM. The institutional mismatch – to be polite, between FMUSP and the Butantan Health Center, crucial for the CEM but identified with opponents of the regime, further compromised the continuity of the experimental curriculum (Mota, 2020).

The Voluntary Pedagogical Formation in the Experimental Course at FMUSP

Reflections from its protagonists, teachers, and students, align with the mentioned analyses. Although the political intensity of the period, well-documented, strongly influenced the interpretation of the CEM until its amalgamation with the existing curriculum, there is an approach that must be considered: its pedagogical practice. The pedagogical proposal of the experimental course, documented through semi-structured interviews conducted between 2014 and 2016, is reflected in accounts still vividly present in memories. Twenty-four students from the same Faculty, selected from those in the two distinct courses between 1968 and 1973, reflect on their education and the results of this period on professional performance, management, and academia. Eleven teachers who taught classes in both courses, exclusively or not, were also interviewed. The testimonies report personal experiences and identify the impact caused by CEM during its brief existence.

In the interview process used in this text, the accounts document the trajectory and development of careers from entering the course to the present period; the perception of the methodology of the attended medical curriculum; and a reflection on academic peers and the aspects that influenced them in their professional lives. The content analysis built units of meaning in the speeches, referenced by the culture and literature of the period (Schraiber, 1995).

The narrative analysis employed focused on the interpretation of its authors, the interviewees, through their own personal stories and experiences of the Experimental Course. Beyond words, expressions, and languages describe the dense participations and protagonisms, feelings, and thoughts experienced. This analysis revealed the relationships between individuals and their (then) social reality shaped by the Course, which, in this analysis, we argue, exercised a voluntaristic teaching approach (Franzosi, 1998).

The professors in the utilized sample are still professionally active, whether in clinical practice or academic research, and have undergone international training in their fields. However, only two reported participation in teaching training courses. It is interesting to note the absence of this prerequisite for "recruitment" to the experimental course, notably given its status as a curricular innovation.

One of the course coordinators told us that he chose (sic) young people because, as the course was new, he couldn't bring in old teachers... they already had vices and were from the traditional course (Professor, Infectious Diseases, Traditional & Experimental; emphasis ours).

I had a class of 20 students... lived intensely... very dialogical classes... bringing together [linking] knowledge... in morphology with... pharmacology and then in clinical practice. So... the way we thought and acted, it was wonderful (Professor, Biological Sciences, Experimental).

We met once a week and... we planned... it was: Hey, is it important to talk about mitochondria?... How does the clinician see this? How does the surgeon see this... There was a great closeness... There were several iconic professors [with] a lot of closeness with the students and became a positive influence (Professor, Biochemistry, Experimental).

But I know... the fact that I am a doctor made a huge difference... [with] experience capable of explaining... because the emphasis was on pathophysiology. The person had to put the pieces together, and in the

end, they graduate. That was the vision, that's what we wanted. There was no course for the teacher to learn this. It was trial and error" (Professor, Surgery, Traditional; emphasis ours).

There was... the need to... adapt to how the course was delivered. One thing is for me [to teach] without knowing what my peers are teaching... [another] is... to understand what different disciplinary fields work on to adapt to it... maybe the only requirement that existed was this (Professor, Preventive Medicine, Traditional & Experimental; emphasis ours).

It was very important to give the student a chance to study... and learn on their own. And this is not done on the blackboard... the classes were... an exercise in the teacher's self-esteem on the blackboard... it became a very different course... I won't say better, but very different (Professor, Psychiatry, Traditional & Experimental; emphasis ours).

Working in the CEM provided the Professor with autonomy but also a "submission" to didactic innovations. These are reported through the integration of content – distinct from the thematic fragmentation observed until then. There was also a strong social interaction, both among professors and students, and through the proximity between professors seen as professional examples. However, for professors in the traditional course, the mentioned fragmentation was not understood as an inappropriate use of scientific information or the necessary concepts for the proper development of medical practice.

We had a dynamic teaching approach... the students prepared questions to discuss among themselves... we projected things (Professor, Tropical Medicine, Traditional & Experimental).

The course followed a differentiated curriculum, similar to some American curricula... the idea of integrating disciplines, the blocks, and the structures opened the minds of those who proposed [to participate]... fantastic didactics if everyone knew what they were doing. It was not possible to continue giving the same lecture as always (Professor, Psychiatry, Traditional & Experimental; emphasis ours).

It was a course with more freedom to make changes and suggestions. The course was given to small groups of students, so there were no traditional lectures. There was no theoretical class (Professor, Biochemistry, Traditional & Experimental).

If the professors carried a dense professional and academic curriculum, the medical professionals graduated from the medicine course at USP, in either of its two curriculum modalities, also followed paths of intense specialization through Medical Residency in Brazil or international centers. Among the latter, there is a highlight for those who attended the "traditional" curriculum. Even more notable was the observation of academic trajectories with the attainment of Doctoral degrees – by all interviewees. Given this characteristic, during the interviews, the 24 former students showed intense involvement with the experienced historical period. They sought a logical sense for the narratives...

Although in this condition one might question a possible selection bias – and a limitation of the analysis, the participants' reflections seemed objective regarding their roles and feelings towards peers, professors, and the institution. Still, this professional qualification should be emphasized. Another possible condition is the establishment of cross-references among colleagues with similar trajectories, in this case, doctoral degrees. Even though the search was for former students, finding them with the experience of Ph.D. programs can enrich reflections on the academic environment, notably due to the prolonged exposure – but not reduce a potential bias towards positive or lenient interpretation.

They reported how the methodology greatly permeated theory and practice, aiming to develop the ability to study, reason, and work in groups, integrating the content. The traditional course deviated from this experience. The interviewees highlighted additional themes that brought the medical curriculum of the CEM closer to the Humanities – unfamiliar to the curriculum then in force.

What was told to us is that the curriculum change had two objectives... to be more modern... a completely different didactic structure than the traditional one. And... to train a doctor who would practice medicine without doing the residency (Student, Plastic Surgeon, Experimental).

A course like the medicine course at USP was a huge differentiator... A course with such history couldn't be bad. I knew about the experimental, some students had gone to the prep course to talk about it (Student, Surgeon, Traditional).

In the experimental, we did a block system. We studied anatomy, histology, and physiology of the digestive system. Things were integrated... we saw the cadaver... we saw a patient in the hospital with some related pathology... it was easier to learn. This difference between the two courses was striking (Student, Public Health, Experimental).

We spent a lot of time... reading and studying. Endless theoretical classes, full of details, drawings, schemes... [in the] hospital, it was very good because we saw... and lived with practice, but [only in the] third, fourth year (Student, Clinical, Traditional).

In the first year, we had the social sciences course... we thought that the traditional folks were reactionary, and those from the traditional thought that we were communists... it reflected what was seen at the time (Student, Psychiatrist, Experimental).

The CEM allowed contact with patients early in the undergraduate program. Students "attended" under the supervision of multiprofessional teams with pediatricians, social workers, psychologists, and psychiatrists, along with teachers, at the Lapa and Tatuapé Health Centers. An interesting distinction from the traditional model where routine visits for observation occurred in outpatient clinics and the emergency room at Hospital das Clínicas. In both curricula, the didactic preparation appeared to be limited, albeit more emphasized in the traditional one.

We... were already going to work at the Lapa Health Center... had a huge advisory. [But]... the university hospital... wasn't ready... So we had to... rotate in the same clinics as the traditional students. The program lacked... better preparation regarding surgical subjects... lack of coordination among disciplines... with the spirit of the course (Student, Rheumatology, Experimental).

The traditional one focused on training first... It was important to have a global view of everything to gradually break down the knowledge with prepared experience (Student, Surgeon, Traditional).

Theory prevailed over practice. There was an excess of theory... I can say that one negative aspect was the excess of theoretical classes (Student, Surgeon, Traditional).

There was a general anatomy course, which was the most boring, memorizing... a whole week, and we would never use that in life again (Student, Clinical, Traditional).

Limits and Implications of Voluntary Teaching in the Experimental Medicine Course at USP

The accounts of the faculty involved in the Experimental Medicine Course (CEM) suggest belonging to an idealistic group. Openness to participation in decisions, joint construction of didactic strategies, and recognition of the teaching work by the course coordination are actions that brought faculty members closer to identification with the Experimental Medicine Course.

The experimental course and its curriculum were suggested as a product of its time, aligning with socio-historical-cultural contingencies and individuals who were willing to modify medical education at the Faculty of Medicine of the University of São Paulo (Tavano, 2017). The highlighted reports do not deviate from this interpretation but place the didactic proposal ahead of its time, albeit with pedagogical limitations that may have contributed to its short existence.

The personal experiences of teachers and students document the voluntary determination described by I. Raw (Raw, 1994). The strategies used small group methods and independent study, but in an incipient manner and without documented systematization (Sobral, 2014). Despite the willingness fueled by identification with the teaching differential, innovative methodology, and interpersonal relationships, the pedagogical strategy was timid and probably limiting to the continuity of CEM itself. In an institution that valued prominent names as faculty, internationally known in their fields and specialties, CEM provided new teachers with a perspective anchored in this voluntary determination.

Greater involvement was necessary for the course's objectives to be achieved. The proposed curriculum model was in constant conflict with the institution's administration. All faculty members felt responsible for the new course, evidenced by their participation in lengthy discussions about proposed practices that elucidated the (new) humanistic character upon which the new medical course was being built. The collaboration among CEM faculty members strengthened their commitment to the course as they felt part of a construction with a common interest. This identity seemed to translate into a model interpreted as emancipatory teaching.

The CEM represented an experience, not isolated, in the still early dissemination of active teaching methodologies in Brazil. It is interesting to reflect on whether the controversial period of its inauguration was appropriate, considering that the 1960s were marked by the

military government with the university reform (Snider, 2018). This reform in 1968 profoundly changed the Brazilian university, such as the creation of the departmental system and the abolition of the chair system. It imposed compulsory retirements of professors considered contrary to the regime and the dismissal of rectors. The Ministry of Education created a security and information division to monitor the political activities of professors and students in institutions – a true police control (Martins, 2009). This context contributed to creating rivalry between the CEM and the traditional, including affiliations, by students and professors, with different courses, reflecting political ideologies.

The Experimental Medicine Course (CEM) did not aim to deny the Faculty of Medicine but rather to assume a pioneering position, consolidated since its inception, where teaching was aligned with laboratory research. At no point did they distance themselves from the "Casa de Arnaldo" with the desire to remain at the forefront of education (Tavano, 2017).

Notably, the participation in a new project that emphasized autonomy in the pursuit of knowledge was the most strongly recalled memory in the speeches of students and teachers. Even more interesting was to observe that even those not directly involved (teachers and students from the traditional curriculum) also engaged in the same profound reflections on the didactic experience proposed by the experimental course at that time. Although it may have been a coincidence – even with the randomness of choices for interviews, the consolidation of academic careers forged during this period may have been a byproduct of this experience, whether directly experienced or through institutional proximity to both curricula.

The CEM represented a pedagogical milestone, in line with but also ahead of its time. In line because it was based on literature and international experience of the period. However, its structure and functioning were grounded in the limited and voluntary pedagogical training of its faculty. Simultaneously, it was ahead of its time because it required such teacher training and structure that were only emerging in the context of national universities. Nevertheless, the educational autonomy promoted among its participants reflected in professional careers beyond the memories of its political impact, leaving a lasting pedagogical legacy.

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