

# Interdisciplinary bachelor's degree in health:

analysis of a new higher education curriculum in Brazil\*

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Brazilian public universities are undergoing an intense process of change in search of solutions to transform themselves into institutions that are more attuned to 21<sup>st</sup> century social needs. In this regard, the aim of this study was to analyze a new higher education curriculum offered at the Federal University of Bahia (UFBA): the Interdisciplinary Bachelor's degree in Healthcare. This was a preliminary qualitative investigation, accomplished as a case study. The methodological tools used include document analysis, open interviews and participant observation. It was seen that the teachers were engaged in the process of putting together a course that promotes training of professionals qualified to undertake social development. It was also noted that the students were themselves proving to be capable of deep critical reflection on social issues. It was therefore concluded that the case studied has provided the results expected by the higher education institution hosting the course.

*Keywords:* Brazil. Higher Education. Transformation. Interdisciplinarity. Healthcare professionals.

As universidades públicas brasileiras encontram-se em intensos processos de mudança em busca de soluções que as tornem instituições mais conectadas com as necessidades sociais do século XXI. Com base nesses dados, o objetivo deste estudo é analisar um novo currículo de ensino superior ofertado na Universidade Federal da Bahia (UFBA), o Bacharelado Interdisciplinar em Saúde (BIS). Esta é uma pesquisa preliminar de natureza qualitativa, efetivada por meio de estudo de caso. As ferramentas metodológicas utilizadas incluem: análise de documentos, entrevistas abertas e observação participante. Observou-se que os professores estão engajados no processo de construção de um curso que promova a formação de profissionais qualificados para empreenderem o desenvolvimento social. Notou-se que os alunos estão revelando-se estudantes capazes de realizar profundas reflexões críticas sobre aspectos sociais. Portanto, concluiu-se que o caso estudado tem fornecido resultados esperados pela instituição de educação superior que o abriga.

*Palavras-chave:* Brasil. Educação superior. Transformação. Interdisciplinaridade. Profissionais de saúde.

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## Introduction

In the worldwide context of Higher Education (HE), there have been debates on issues, such as: the science crisis, the movement for changes in the universities, the need for connections between teaching and research, association among universities and social demands, the call for social responsibility, flexibility etc. Initiatives have been taken which seek solutions linking universities more closely to social needs, thus making them more efficient (Leisyte, Enders, Boer, 2009). Brazil is also undergoing this process of change in its public universities. As a way of accelerating the transformation, through Decree 6.096/2007, the federal government has implemented the Programme in Support of Plans for Expansion and Restructuring of Federal Universities (REUNI) (Brasil, 2007a).

The Federal University of Bahia (UFBA), one of the largest in Brazil, located in the state of Bahia in Northeast Brazil, was one of the first universities to adhere to REUNI. The decree which established REUNI was published on April 24th 2007, and the document that states guidelines dates from August 2007 (Brasil, 2007b). In October 2007, the Boards of the Federal University of Bahia (University, Teaching, Research and Extension Councils and Curators) approved the inclusion of UFBA in REUNI (Universidade Federal da Bahia, 2007). Note that according to the decree that establishes REUNI, with regard to the principle of university autonomy in Brazil, every federal university can join REUNI at any time. For this purpose, the universities must present restructuring plans which demonstrate strategies for meeting the objectives proposed by REUNI, such as expansion of access, expansion of policies for inclusion and integration of undergraduate and graduate studies, among other important policies. Also, respecting the principle of autonomy before being presented to the Brazilian Ministry of Education (MEC), each restructuring plan must be approved by the institution's highest body (Brasil, 2007a).

UFBA has proposed changes in accordance with some of the needs identified around the world. One may quote Leisyte, Enders and Boer (2009) who, in the context of Dutch and British universities, indicate the need for a closer connection between teaching and research. This same need was discussed in the proposals for transforming UFBA (Universidade Federal da Bahia, 2008a, 2008b). Issues such as flexibility, mobility and organization of bachelor's, master's and doctoral degrees, among others debated in the French HE arena (Derouet, Normand, 2008) are also included in the design of changes at UFBA (Universidade Federal da Bahia, 2008a). In Japan, Amano and Poole (2005) make it clear that despite the fact that Japanese universities do not demonstrate an apparent crisis, they do need to be reformed so that their institutions come to meet the social demands of the 21st century. These same ideas are also included in the plans for reforming UFBA (Universidade Federal da Bahia, 2008a, 2008b).

The aim of this study is to analyze a new higher education (HE) curriculum offered at UFBA, the Interdisciplinary Bachelor's degree in Health (IBH), which is believed to be ground-breaking program in Brazil. This article is divided into four parts. The first part provides an overview of the Brazilian transformation of higher education in recent years and, as an example, focuses on UFBA. The second part of the article consists of detailing the methodology used. The third part provides a general idea of what is the IBH and compares some aspects of this model with American models. The final portion of the article discusses the results of interdisciplinary actions within this new curriculum. Franks et al. (2007) affirm that these actions have been widely theorised and practiced in academic environments, but there are a few reflections on results of its utilization in higher education. This situation confirms the importance of this research.

## Brief contextualization of Brazilian higher education

One may observe that the changes that happened (and those that will occur in the future) at UFBA (and in Brazil) are not arbitrary. On the contrary, in our globalised world, these actions are in complete harmony with the development of a nation with regard to its society and in its relations with other nations of the globe. It can be seen that the proposals for change at this university, part of REUNI, follow the direction in which HE is evolving in several universities worldwide.

REUNI has often been criticised. It is believed that the reason for such criticism lies in the unfortunate trend in university circles of reproducing old knowledge and, at the same time, a difficulty in shedding old ways of thinking, considering them inevitable (Almeida Filho, 2008). However, it is important to recognize that REUNI's proposals have enabled implementation of essential actions for the development of society, such as expansion of the number of vacancies in public universities and implementation of interdisciplinary courses – thus engendering better chances for students to learn about the complex issues of their society and not limiting their sphere of action to a speciality. Lima, Azevedo and Catani (2008) state that recent public policies in Brazil are highly influenced by external policies, “foreign models” and “theoretical reports”. In the context of a globalised world, it is possible to partially disagree with such thinking, which would be acceptable only if Brazil did not have citizens, administrators, university professors able to recognise the needs of the country, to reflect on changes and to formulate responses and efficient democratic solutions. To exemplify how Brazil elaborates its own solutions, which are often pioneering, may be mentioned the Unified Health System – the public health service in Brazil (SUS), which, despite its shortcomings, when compared to recent discussions on the North American health system reform (Day, 2010; Stephens, Ledlow, 2010), could provide useful guidance for that country. Furthermore, one might ask: if Brazil, at any point in its history, received influences from changes that took place in other countries and if these changes contributed to social advances, what is wrong with that?

In documents pertaining to some reforms at UFBA, it is possible to see quoted as a reference, the Bologna process and the North American College, isolated initiatives from Europe and the US respectively. However, documents of a more international reach and interest are also quoted, such as “the Annals of the World Conference on Higher Education for the XXIst century”. It is hoped that this example highlights the fact that changes at UFBA are not merely copied from other models in other countries, but are connected with the discussions around education in a globalised world. Furthermore, it must be remembered that Brazil has also innovated based on its own needs, whether on the macro scale of proposals such as REUNI, or at a micro level, like the admirable actions of professors and students in the classroom, which will be shown in this article.

It is believed that the development of education in Brazil has accompanied other growth movements in the country. One example is the fact that Brazil is today considered an important country in terms of global economy (Geert, 2009), taking part in important economic blocs, such as Mercosul, G-20, G-3 and G-4 (Oliveira, 2005). It is also worth notifying that, since the nineties, Brazil has reduced its poverty rate, improved its indicators for social inequality and distribution of wealth, and has more effectively integrated to the global economy (Thorbecke, Nissanke, 2008).

Brazil is today not only recognised worldwide as a major economic force, but it is also a considerable field for development and stimulation of knowledge. Brazilian universities, today, boast of excellent courses, coordinators, professors and students, who will certainly contribute not only to changes in the universities themselves, but also to the development of the entire nation.

In addition to the macro issues around changes in HE, there are others, specific to each scientific field. Thus, in the field of health, one might highlight the urgency of changes in academia offering training to students and future professionals to work with health promotion in a more effective, human way, fully committed to the needs of their communities. Based on these data, this article proposes to analyze a new course in the health area, whose creation was stimulated by this global context of transformation in academia. The course is entitled the Interdisciplinary Bachelor's Degree in Health (IBH), offered at “Milton Santos Professor Institute of Humanities, Arts and Sciences (IHAS)” at UFBA.

## Methodology

This research began with the following question: In the context of Brazilian universities transformation, how can more effective training be given to health professionals to enable them collaborate towards the development of Brazilian society?

This investigation is part of a doctoral research that is currently in process of completion. It was decided to disseminate part of the preliminary data collection that was already analyzed. This is a qualitative study undertaken as a case study about the IBH. According to VanWynsberghe and Khan (2007), through a case study it is possible to analyze complex social interactions. The authors recommend to attempt to elicit a response to a question one must shed some light on an event, activity or process inserted within the system of the case studied. This way, emphasis was given to interdisciplinarity.

It is important to remember that the case study undertakes a detailed, intensive and profound description of a specific unit of analysis, limited in time and space. For its effectiveness, only a small sample is required. This type of investigation should occur in a natural environment where the observer must immerse in the context and cause little influence or control over the situations (VanWynsberghe, Khan, 2007).

The choice of the IBH was intentional, as it is the first health course in the Brazilian Northeast that has a curriculum with many interdisciplinary components. Methodological tools used include documentary analysis, semi-structured interviews, open interviews and participant observation. The theoretical and documentary data have been collected since September 2008. Data obtained from the subjects through the interviews started to be collected in March 2010, and they were accomplished in three moments: March 2010, August 2011 and October 2011.

It is worth considering the ethical aspects of the research that are in accordance with Resolution no. 196/96 of the National Health Council in Brazil. Thus, prior to the interviews, the research project was submitted to the Ceará State University (UECE) Ethics Committee for analysis. The interviews were authorized by each of the subjects through a free and informed consent term.

In March 2010, public documents relating to the implementation of the course were analyzed, such as the document describing actions linked to REUNI planned by UFBA, the pre-project of the Institute of Humanities, Arts and Sciences and the pedagogical pre-project for Interdisciplinary Bachelor's Degrees. Subsequently, non-structured open interviews were held with two first IBH professors and three students at the university. At this time it has been only one year and three months that the course began and the professors interviewed were the only members of IBH faculty team. These two professors were working on the conclusion of the course's implementation.

The interviews with the first two professors took place in a group context. At the time, a few starting points were established, which were identified from the documents previously read. They included the students' reasons to start the course; relations with other departments at UFBA; articulation between research, community outreach and teaching; the existence of agreements for running curricular activities in communities; curriculum design; the presence of flexibility and autonomy; critical thinking and interdisciplinarity.

The interviews with students also occurred simultaneously and they were chosen without any prior knowledge about them. They were asked about how the decision to become a student of IBH came about. From this single starting point, many other aspects of relevance to the research were revealed. The data expressed both negative and positive views, such as: the prejudice they faced within the university and interdisciplinarity as a factor leading to their own transformation, respectively. After the first interview's transcription, the next step was the triangulation of collected data from students and professors with the analyzed documents, the theoretical bibliography and the social, political and economic context in which Brazilian universities are inserted.

In 2011 many participant observations were accomplished such as, observation of teaching and learning activities and professors' meetings. It was verified that IBH faculty team had increased and now has nine effective professors and one temporary professor. During these periods that coincided with the last semester of the students in the first group of the IBH, interviews were accomplished with fourteen students from different semesters and eight professors. However, the last data collected were not yet completely analyzed; therefore most of the data of this article are from the first step of the research.

Many studies are accomplished about the profile of the IHAS's students such as the studies from observatory of student life (OSL) at UFBA, but for this article there wasn't time to access these data. However, in the interviews, the professors, based on their experience, provided significant information

about the students from IBH. According to professors, lots of students of the first group came from a social class with economic advantages, and this group seems to have more students interested in going to medical school. These data are based only in their observations through professors' practices.

The ages of the students are variable, and it is possible to find students over sixty years of age. Many students already have a degree from a superior course and they have different aspirations, such as, just to improve their knowledge or get a new chance in their professional life. The students live in many different localities, among them, poor neighbourhoods, and others in better living conditions. Many students work during the day and study at night. In the next steps of this research, more data about the profile of students will be collected.

According to feedback from majority of professors, the majority of students is curious, like to participate in subjects discussed in the classroom, enrich the reflections through their own experience of life besides other contributions to their own development and the growth of their colleagues. Some professors reported that some students have been having difficulties and according to them the reason can be the flaws in the fundamental and higher studies. However, the professors did not see this issue as a big problem. They spoke about the disciplines in the curriculum of Bachelor's Degrees of IHAS, in which the students can improve some skills. As an example, they quote the texts workshops. These data show that affirmative actions are being efficient on IHAS.

## Discussion – General Data on the Interdisciplinary Bachelor's Degree in Health

According to the questions raised and the needs presented by the search for innovation in training for health professionals, the composition of IHAS was associated with the IBH. This institute was created in 2009 and its original project describes it as:

The Institute's mission is to produce and make available to society knowledge from diverse fields, seeking the intellectual qualification of citizens who are technically competent and humanistically integrated, capable of reading and understanding the world around them: critically understanding the social, political and environmental reality, and of acting towards construction of a fair and democratic society. (Universidade Federal da Bahia, 2008b, p.9)

This institute was intended to accommodate, in addition to the IBH, three more courses: Interdisciplinary Bachelor's Degree in Humanities, Interdisciplinary Bachelor's Degree in Arts and Interdisciplinary Bachelor's Degree in Science and Technology. Documents show that since 2008 other bachelor's degrees are being considered for implementation at UFBA. This is not an isolated action, and in other public universities in Brazil it is already possible to find other Interdisciplinary Bachelor's Degrees, such as at University of São Paulo (Universidade Federal da Bahia, 2008a).

The pedagogical project affirms that the Interdisciplinary Degrees arose in accordance with models of HE encountered in developed countries, such as the United States and countries of the European Community which adhered to the Bologna process. The reason for their implementation was overcoming serious shortcomings in Brazilian HE, like: premature choice of the professional career; limitations in entering undergraduate courses; HE as a privilege for the high society members; narrow curricula; gap between undergraduate and graduate studies; and obsolescence of outdated academic models incompatible with other global realities (Universidade Federal da Bahia, 2008b).

According to the definition found in the pedagogical pre-project for the first four Interdisciplinary Bachelor's degrees, they are:

[...] A format for undergraduate degrees which is characterized by adding a general humanistic, scientific and artistic element to deepening of knowledge in a given Field of study, promoting development of competences and skills which will enable graduates to acquire cognitive tools that give them autonomy for lifelong learning as well as a more complete preparation for life in society, in all its dimensions. (Universidade Federal da Bahia, 2008a, p.12)

In the curricular structure of the Interdisciplinary Bachelor's Degrees, it should be noted that they can complete it; that is, upon graduation and just start working. There are two more possibilities: undertake a master's degree and then a doctorate; or entering a professional course (for example, a student who concludes the IBH may join a course in medicine, psychology, dentistry etc.) (Universidade Federal da Bahia, 2008a).

It is known that this possibility already exists in other universities worldwide, such as in the United States, a country which probably has one of the largest higher education systems in the world. As an example, a common situation in that country is that a student who finishes Community College, a form of higher education with low cost, has the option of transferring credits to another course in an American University, which may be public or private. These situations happen since most of the Community Colleges do not give a certificate for a Bachelor's Degree.

In the early 20th century, junior colleges arose, located in small towns. They offered the two first years of college and enabled transfer, that is, those students who wished to complete their studies in a university and who had good grades, could do so. Later, there was pressure for junior colleges offer technical disciplines. That is how community colleges start serving a large contingent of students [...] These colleges not only serve the purpose of transfer for some students with a more academic calling, but also develop complete courses, some lasting four years, geared towards practice, aimed at meeting the needs of the local job market. (Oliven, 2005, p.122)

Another option for American students is to start their higher studies in a College at a University. In this case, they have two cycles. The first one is composed of the two first years (core curriculum) when the students have to study general subjects. In the first year the students are called freshmen and in the second sophomores. Thereafter, in the third year, the students can choose their major area of studies and focus on a professional area. In these years they are called juniors and finally seniors.

The Interdisciplinary Bachelor's Degree model at UFBA is closer to the reported last model. The reason is because at UFBA students can also study in two cycles. The first cycle can be an Interdisciplinary Bachelor's Degree and the second cycle can be a professional course or the Master's and Doctoral Degree. At this point, the reader may be asking: How long does it take? If students want to take a professional degree, normally in the USA, they will do so in about four years. In Brazil, on the average, the students will take four to five years and in some cases, such as medicine, six years. But if students start with an Interdisciplinary Bachelor's Degree, how will it be? The first calculation that people of the State of Bahia are doing is: three years to finish the Interdisciplinary Bachelor's Degree are required, and four, five or six more years to be a dentist, psychologist or physician. In all, it will be seven, eight or nine years.

Some explanation must be given about the duration. To continue a comparison between this new course in Brazil and the American System, let us take the example of medicine which, in UFBA, seems to be the longest course – if the student starts with an Interdisciplinary Bachelor's Degree. In the USA, students who wish to be physicians first need to study in a college to do general studies during four years and, only after this period can they begin studies to become doctors (Oliven, 2005). So, the time to be a physician in UFBA, starting through the IBH, is approximately the same as in the USA. However, further data must be discussed, i.e. the curricula of Interdisciplinary Bachelor's Degrees. The curricula are composed of three kinds of disciplines and activities: obligatory, optional and free. If all the courses in this institution run concurrently as partners, the time for students to conclude their objectives in studies can be optimized. This can happen because students can undertake some optional and free disciplines in other courses and then they can be part of the curriculum of the second cycle of studies.

Finally, when one compares the proposals for Interdisciplinary Bachelor's degrees with the North American models, progress is seen in terms of social and democratic sense. This is explained by the fact that both options – start working and continue studying in a professional course or a master's and doctoral program – and both courses – the Interdisciplinary Bachelor's degree and the subsequent course to be taken – are entirely free and are offered in the same institution, not being necessary for

the student to switch academic environments. HE institutions in the United States, whether public or private, except for those that offer scholarships, students incur a high financial cost. It is important to report that, currently, the majority of federal universities in Brazil have vacancies reserved for students with low socio-economic profile and in the UFBA this number is 45%.

For students who want to continue studying, UFBA will reserve, at least, twenty per cent of vacancies on professional courses for students who will finish an Interdisciplinary Bachelor's degree at UFBA starting from 2012 (UFBA, 2008c). About this option for the students of the Interdisciplinary Bachelor's Degree an issue must be reported. The students interviewed informed that many students from high school and from professional courses in the university seem to be thinking that, beginning studies at UFBA from Interdisciplinary Bachelor's Degree is an easier way to get into a professional course. According to one student, a professor of a discipline in a different unit from IHAS, comparing the students of a professional course to students of an Interdisciplinary Bachelor's Degree, said in class that the former passed to study at UFBA through a tighter funnel (i.e. a harder selection process).

These ideas are not based on facts and such thoughts can lead to prejudice inside the institution. It seems to be impossible to consider that this HE institution is one of the most sought-after universities in the country, as it boasts national recognition for its academic potential. As a result, it is very hard to be approved in the selective process regardless of the intended course. Based on these data, we believe that all the students of UFBA, from any course, underwent a serious selective process to enter this institution and we can also conclude that they have a good capacity to learn.

One can affirm that students interviewed presented a considerable capacity for critical thought and an expanded vision of health as an object of professional practice that must receive efficient attention by means of reflection on the needs of communities as well as their social and cultural characteristics. The university students must receive credibility from colleagues and professors because the university environments are places of construction of subjectivity and the experiences gained there will influence what kind of professionals those young people will be. The professor's belief in the capacity of students is one of the foundations of the professor-student relationship and the basic principle of the teaching-learning process.

Finally, an important aspect about students' entrance into universities has to be considered. About this issue, one student observed: "it's one thing to take university entrance exams knowing physics, chemistry, biology, history and geography, but it's something different altogether to take a course in health, knowing about health and what you want from it" (Student 1).

## Discussion – Interdisciplinarity

First, it is necessary to think about the reasons for proposing interdisciplinarity to Brazilian Universities. This is discussed by Nunes and Carvalho.

Therefore, from upper-secondary school at least, a process of restriction of the "world view" of future generations begins, transforming them into candidates for a profession before they are candidates for knowledge. Upon entering higher education institutions [...] our students are guided by a professionalising matrix of teaching, leaving aside more comprehensive, humanistic, historical or social teachings...that is: education. (Nunes, Carvalho, 2007, p.191)

Interdisciplinarity is a way to surpass this situation cited above. Regarding concepts of interdisciplinarity, it is common knowledge that there are several definitions and applications (Almeida Filho, 2005; Franks et al., 2007). In the pedagogical design of Interdisciplinary Bachelor degrees, the following definition of interdisciplinarity is encountered: "establishment of significant connections between subject fields" (Universidade Federal da Bahia, 2008a, p.14). Note that these connections have evolved from a sense of interaction towards integration of subjects (Franks et al., 2007). "Interdisciplinarity is conceived as 'differentiation with integration,'" (Tuckey, 2008, p.116).

In respect to interdisciplinarity in the academic arena, it is known to be favourable, as it has led to benefits for development of knowledge and promotion of higher education. Interdisciplinarity is adopted as a pedagogical tool when it is recognised that scientific disciplines, however sophisticated, offer only limited understanding of complex scientific issues. In addition, interdisciplinarity is considered essential when one also recognizes the limits of the human capacity for production of knowledge (Cook-Sather, Shore, 2007).

Upon reading documents and analyzing the discourse of professors and students, the existence of multiple interdisciplinary actions was observed. These may be both formal, as seen in the curriculum which enables students to take modules in several departments and other courses; or informal, where interdisciplinarity is seen to occur spontaneously, as reported by the professors in the context of the module "Contemporary Studies". It was noted that the subjects in this case study not only believe in interdisciplinarity as a theoretical pedagogical support, but they are also experiencing interdisciplinary teaching-learning situations.

I love being in classes where we have students not only from the IBH. We have students from humanities, arts, science and technology. Based on their comments during debates, we see how, for each given situation, there's a different way of looking at things, each one knows only one detail and being in a room with all these people enriches us, and we come to see a given situation or a given discussion from a number of viewpoints whereas before we were only looking at one aspect. (Student 3)

When questioned on the existence of interdisciplinarity in the IBH, one professor stated: "Interdisciplinarity takes place on a daily basis [...] The academic board brings together all the professors and coordinators of the interdisciplinary Bachelor's degrees; so the meetings are interdisciplinary in their composition" (Professor 1). Interdisciplinarity is known to enable knowledge to cross subject frontiers. Thus, professionals who are trained based on this pedagogical possibility should take into consideration the way subjects are put together, as this care facilitates interaction and maintenance of the professional commitment to integration of knowledge. In this sense, effective promotion of interdisciplinarity may be directly related to the structure of subjects (Franks et al., 2007).

In the daily classroom routine, interdisciplinarity has occurred in several ways [...] I have practiced interdisciplinarity through the work proposed to students. Within the programme themes, from the content developed in the classroom, there are some topics that we deal with in an interdisciplinary manner, not just from the standpoint of health, but also from the point of view of the arts and the media, seeking to develop students' interdisciplinary view of the object of study and this debate and deeper critical reflection during their training. (Professor 1)

Another important issue that seeks to contribute consistently to interdisciplinary practice is the choice of a staff committed to this kind of pedagogical design (Franks et al., 2007). This care in choosing professors who will work in an interdisciplinary manner was also taken at UFBA. The other professor was one of the first people to join the teaching staff of IHAS and therefore participated in the selection of other professors. At one point she made an interesting statement about this selection process:

Confidential individual interviews were conducted with these professors because we had defined certain criteria that we wished these professors of IHAS would meet. Namely, involvement with collective work and an appropriate academic profile for the interdisciplinary project. (Professor 2)

The students also expressed points that relate to interdisciplinarity in the IBH:



The professors' profile is super-hyper-interdisciplinary. For example, here we have a professor that did his bachelor's in physics and his PhD in theatre [...] in class, sometimes, we get a bit lost because they're all PhDs, so sometimes we don't know about one or another author and they laugh and try to explain, then they recommend something for us to read. They want us to be thirsty for knowledge and we do feel that thirst. (Student 1)

One excerpt of the discourse of another student shows how the interdisciplinary training of the IBH is proving essential to promote critical reflection:

[...] I can perceive better my environment, much better than before. I think I have a greater concern for the life I live and the life other people are living, and why they are living that life, why I'm living mine the way I do [...]; today I have a far better critical awareness, much better. People come and talk to me and I feel free to say what I want [...] I take part in discussions [...] I don't just listen, today I debate and I think it's really important for my whole life [...] to the point of going up to a professor and saying: what's your concept of health? You know that today you have background knowledge, that today I have the capacity to discuss what was incited here and that's not always the case elsewhere. (Student 2)

Interdisciplinarity is also present in the fact that some modules are common to all of the four bachelor's degrees, so these students come into contact not only with colleagues from their field of focus, but also from other areas, developing links that can be enriching. It was consistently seen on what the professors related about interdisciplinarity: 'the construction of the capacity for critical reflection in students'.

Through the speech of professors it was possible to realize that in practice the articulation of the interdisciplinarity in the curriculum occurs in many ways. They have the freedom to create interdisciplinary actions. Many of them coordinate curricular activities in communities and through these actions promote meetings and changes among students from different Bachelor's Degrees of IHAS.

Other initiatives have been done, as the dialogue among the professors of the different disciplines. As an example, a professor from a discipline whose major theme was health associated with another professor responsible for a discipline about theatre and all the students prepared a play together whose major theme was men's health. According to one of these professors, the play was wonderful and the students staged it in many communities and schools.

Some actions occur frequently, and are big actions as the congregation meetings. These meetings have a participation of the four teams of Interdisciplinary Bachelor's Degrees and students. In these moments, everybody can express his or her opinions and reflections. In these spaces, it has been possible to discuss and vote on decisions about the future of IHAS' courses. And according to a professor, in these meetings the following are being discussed: What is interdisciplinarity? What do they want with interdisciplinarity? How interdisciplinarity can help prepare students etc.

All the professors interviewed reported that they are learning to work through an interdisciplinary process. Some of them spoke about the dialogue among disciplines, others about dialogue among professors, and others dialogue among students. Some try in the classroom, class after class, preparing carefully each class; others try to expand to new spaces in and out of university. A curious datum needs to be reported: none of the professors expressed a complete knowledge about issues of interdisciplinarity. This fact seems to be a positive point because in addition to this, the professors demonstrated that they want to learn more about how to work with interdisciplinarity effectively. Finally, they expressed that sometimes they have difficulties - as in all new processes - but they expressed that they are developing their role of professor and this has been a pleasant process.

By stimulating students' critical thinking, one is likely to open-up a path to ethical reflections, which in the health sector, is indispensable. Reflecting on education for childhood and the issue of ethics, Conroy (2010, p.61) states: "If we were to ask, what is most difficult to teach, 'how to be good or how to do calculus', what would the answer be?" Technically, calculus may seem more difficult, but imagine trying to teach someone to be good!" If it is difficult to work on ethical issues with children who are

individuals still undergoing a process of development, imagine how difficult it is to work on humane and ethical issues with individuals who are already in HE. Nevertheless, it is difficult, but not impossible. It can be said that this has been observed to occur in the educational context of the IBH.

It has been observed that teachers and students are committed to development of the IBH. However, it seems that this commitment is limited to the subjects directly related to the course. It can be seen that, even though proposals by REUNI, including Interdisciplinary Bachelor's Degrees, clearly demonstrate the intention to develop higher education in Brazil, actions related thereto suffered boycotts from the outset. In the UFBA management report for the year of 2007, the higher board-members mention, amongst their activities, two facts as being most relevant that year and that, according to them, brought, respectively, positive and negative consequences for the university, such as: joining REUNI and the 40-day occupation of the President's office of UFBA by students protesting against joining REUNI (Universidade Federal da Bahia, 2007).

In this sense, development of Interdisciplinary Bachelor's Degrees has also been hindered, and have been unfairly criticised. In interviews, students revealed some of these difficulties, such as: prejudice in the discourse of an upper-secondary school teacher, who stated that students of Interdisciplinary Degrees "would be graduates in nothing". In this regard, a student of the IBH critically reflected as follows:

In upper secondary school, people are still deciding what to do. This is criticism and not constructive criticism. Did he even look at the course description? Has he seen the design of the courses? [...] People sometimes make these criticisms without studying the proposal, without understanding it. (Student 2)

These people don't read the pedagogic plan, because we study lots of things which no health course would study. They don't study concepts of health, like we did. We looked at texts which are used in post-graduate courses in collective health. We're studying these names that others will never come across, and they don't want to either, because if it was proposed, they wouldn't read it. (Student 1)

On the same issue, Ziman (2000) quoted by Franks et al. (2007), reminds us that implementation of interdisciplinary activities in higher education may be an exhausting task, as it questions traditional structures.

Almeida (2008), President of UFBA in the period in which this university adhered to REUNI, showed awareness of such difficulties when he stated that overcoming passive and inefficient teaching practices at UFBA would be no easy task. Even in the face of these adversities, reform at UFBA continued to be implemented, including, of course, development of Interdisciplinary Bachelor's Degrees. According to one student, in 2009, the aforementioned President of UFBA had to hold a meeting with parents of students taking Interdisciplinary Degrees to clarify the proposals within the new curricula. He also stated that after the meeting many parents were satisfied with their offspring's possibilities for professional development. With these examples, there is a clear lack of clarity among the population regarding the curriculum proposed by IBDs. According to Cook-Sather and Shore (2007), in the near future, the space occupied by interdisciplinary work in higher education will no longer be marginal or segregated as has frequently been the case.

## Conclusions

The main objective of this article was to discuss the changes in education in Brazil. The need to promote training of professionals committed to their community was the focus and the use of interdisciplinarity stems from the teaching-learning process. The data reported here, as well as the discussion herein seek to contribute to the development of HE in health and, consequently, collaborate with the dissemination of a higher quality health promotion in Brazil. These are essential issues for development of any society.

In the context of this research, interdisciplinarity has seemed to the professors to be a fundamental component for reaching the objectives of the course. For the students, even though they are still progressing through their course, interdisciplinarity has been a catalyst for their transformation, making them capable of critical reflection about health and society. Furthermore, it was found that the professors at IBH are committed to concluding the task of constructing a course that can give health professionals the capacity to produce health changes in their community.

However, changes in the curricula of health courses, such as those mentioned above must happen not only in UFBA, but also in other public and private institutions for higher education. It is necessary to create a community environment of in those places, where all participants, students, professors - workers in general - wish to construct a place to develop knowledge of excellence... a place which will prepare professionals to change the social realities in Brazil. Moreover, personal opinions disconnected from the collective movement for change and private political choices must to be overcome.

### Collaborators

The authors worked together during all the steps of production of this article.

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Las Universidades públicas brasileñas se encuentran en intenso proceso de cambio en búsqueda de soluciones que las hagan instituciones más conectadas con las necesidades sociales del siglo XXI. Con base en estos datos, el objetivo de este estudio es analizar un nuevo curso de educación superior existente en la Universidad Federal de Bahia (UFBA), el Bachillerato Interdisciplinario en Salud (BIS). Esta es una pesquisa preliminar de naturaleza cualitativa: un estudio de caso. Fueron utilizados análisis de documentos, entrevistas abiertas y observación participante. Se observó que los profesores están involucrados en el proceso de construcción de un curso que promueva la formación de profesionales calificados para emprender el desarrollo social. Los alumnos se revelan capaces de realizar profundas reflexiones críticas sobre la realidad social. Se concluyó que el caso estudiado ha suministrado resultados esperados por la institución de educación superior que lo abriga.

*Palabras clave:* Brasil. Educación superior. Transformación. Interdisciplinariedad. Profesionales de salud.

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