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O aprender fazendo: representações sociais de estudantes da saúde sobre o portfólio reflexivo como  
método de ensino, aprendizagem e avaliação

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## **“Learning-by-doing”: social representations of healthcare students regarding reflective portfolio as a teaching, learning and assessment method**

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In the current context of the need for changes in the training of healthcare professionals, portfolios can be highlighted as an innovative method for teaching, learning and assessment. The aim of the present study was to identify the social representations of students in the process of constructing portfolios. This was a qualitative study that used a combination of the following techniques: participant observation, interviews and focus groups. In total, 114 students on healthcare courses participated. Through using content analysis, the following core meanings for portfolios as a teaching and learning method were found: easy-to-understand content; autonomy; liberty; and a critical-reflective stance. The following meanings were found for portfolios as an assessment method: error as an opportunity; interaction with the professor; and a differentiated assessment environment. Convergence and conflict points were also found: time taken to perform the activities; reflection process; and innovative method in the context of traditional teaching.

**Keywords:** Social representations. Health education. Reflective portfolio.

### **Introduction**

In the contemporary world, the need to transform the future healthcare professionals' ways of being, thinking and acting is evident, in order to develop an academic education that fulfils the changes that society demands. This requires personal and professional qualification to make decisions and to solve increasingly complex problems.

In this context, in Brazil, the new teaching paradigm that has been proposed by the *Diretrizes Curriculares Nacionais* (DCNs – National Curriculum Guidelines) to Health programs points to the need of changes in the teaching and learning process, so that students can play a leading role<sup>1</sup>.

The reflective portfolio is included in this new paradigm, which demands, from the main actors of this process – students and teachers –, a deep reflection on their roles in the education environment. Thus, reflective portfolios constitute dialog instruments between educator and

student, and they should be continually (re)elaborated in action and shared, as they collect different ways of seeing and interpreting the world within students' and teachers' daily routine of life, study and work, and stimulate decision-making. The teacher should be involved in a constant process of self-reflection, indicating news clues and hypotheses and providing feedback so as to allow timely reorientation for the undergraduates<sup>2</sup>.

As the educational process is closely related to the social context and as it varies according to its purposes, scenarios and the agents involved, it is important to understand the educational phenomenon enabled by the construction of the portfolio as a method of teaching, learning and evaluation. Agent is understood here as "someone who acts and promotes changes, whose achievements can be judged according to their own values and objectives, no matter if we evaluate them according to some external criterion or not" (p. 33)<sup>3</sup>.

From this perspective, this study aimed to identify and analyze the social representations of undergraduate students from Health programs regarding the teaching, learning and evaluation process enabled by the construction of the collective portfolio.

## Method

### Research design

This is a qualitative research that uses the Social Representations Theory<sup>4</sup> as a theoretical assumption in order to understand the phenomenon under study. The premise is that the thoughts and actions of the agents' (students') daily life, in a constant communication with those of the surrounding world, favor the construction of the social and individual life, and these, in turn, interfere in the representations of the constructed process of teaching, learning and evaluation.

Overall, 114 undergraduate students from Health programs participated in the study, out of 119 (5 refused to participate). These students attended the discipline Health Policies in the years 2012 (I and II semesters) and 2013 (I semester) at a public Brazilian university. The portfolios were collectively constructed by groups composed of approximately six students.

The portfolio was constructed in four stages<sup>5</sup>: 1) Construction of the concept of Portfolio, especially the dimensions that characterize it as reflective – at first, individually (outside the classroom), and subsequently, in small groups (in the classroom), based on a review of the scientific literature; 2) My trajectory: each student describes his/her historical inscription in the world: "who I am, where I came from and where I am going". Collectively, the group members write about the perception they have of their colleagues: "who I am in the other's view". These memories are written at the beginning and reconstructed at the end of the semester; 3) Learning with the group: activities carried out in groups according to the themes approached in the discipline (reports of students' experiences in different practice scenarios, reviews, syntheses, summaries, reports of

practices, situations, problems; in short, all the activities that were carried out in groups in the discipline; 4) Creativity space: a place where the group freely exercises creativity: cartoons, poems, songs, photos, drawings, news and news reports released by the print and electronic media, and/or created by the group, together with critical reflections.

#### **The course of the research:**

#### **social representations about the process of construction of the reflective portfolio**

The theoretical-methodological assumption of the Social Representations Theory<sup>4</sup> focuses on the relationship between the subject and the social context and presents a study perspective that articulates areas of knowledge and understands them as complementary, rather than excludable, contributions, in order to unveil a reality or phenomenon in its totality/complexity. When Moscovici<sup>4</sup> delineated the Social Representations Theory, he started from two premises: the first considers that there is no separation between the external universe and the individual's universe, that the subject and the object are not absolutely heterogeneous and that the object is included in a dynamic context; the second premise sees social representation as preparation for action.

Jodelet (quoted by Silva, p.668)<sup>6</sup> has argued that social representation is a form of current knowledge characterized by the following properties: "1. It is socially elaborated and shared; 2. It has a practical orientation of organization, control of the environment (material, social, ideal), and orientation of conducts and communication; 3. It participates in the establishment of a view of reality that is common to a given social set (group, class, etc.) or cultural set". Minayo<sup>7</sup>, in turn, has argued that:

social representations manifest themselves in words, feelings and conducts and are institutionalized. Therefore, they can and must be analyzed based on the comprehension of social structures and behaviors. (p. 108)

In the same line of Moscovici<sup>4</sup>'s proposal, Minayo<sup>7</sup> has stated that, so that educational research is able to influence educational practice, it is necessary to adopt "a psychosocial view" in order to fill the social subject with the internal world and to reconstitute the individual subject to the social world. The Social Representations Theory points to the understanding and unveiling of the meanings attributed to the portfolio as a learning and evaluation method based on the perspective of the undergraduate Health students. Moscovici's theory can aid the understanding of issues that have emerged about learning and evaluation in the context of the transformations that societies have been undergoing, especially those referring to the education of healthcare professionals.

In order to apprehend the students' discourses about the social phenomenon of learning promoted by the construction of the portfolio in a way that was coherent with the proposed

theory, the triangulation of qualitative techniques was used: participant observation, interview and focus group. Participant observation happened through the researcher's action in the classroom (practical classes) and in visits to the groups in meetings scheduled for the construction of the portfolio (outside the classroom). The field diary was utilized as an essential tool in data collection through the record of the observations of all the discourses, attitudes, gestures and expressions, among others, that were considered relevant to the study's objectives.

The interviews were conducted by three previously trained researchers and lasted approximately 40 minutes. An open script with 20 questions guided the researchers (Chart 1). The interviews were recorded and transcribed by the researchers. They were numbered 1 to 114 and were presented in the results with the following codes: I1, I2, I3..... I114. The focus groups were conducted at the end of the semesters with approximately 12 students, without the presence of the teacher responsible for the discipline. The debate was based on a script that guided the group's discussions. The focus groups were recorded and filmed, and were subsequently transcribed by the research team.

**Chart 1.** Script with the 20 questions that guided the interviews conducted with students from the health programs of a federal university.

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**Script for the interviews with undergraduate students from health programs**

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- 1) What is the portfolio for you?
- 2) At the beginning of the construction of the portfolio, were the learning objectives clear to you? (That is, what should be done and/or what you would achieve with the portfolio were clear?) Explain your answer.
- 3) How were the contents and evidences chosen for the construction of the portfolio?
- 4) Has the portfolio helped you to understand the contents of Health Policies and of the SUS? If it has, in what way? If it hasn't, why?
- 5) Is there anything that you verified in the construction of the portfolio that transcends (goes beyond) the contents of the discipline of Health Policies? If there is, what is it?
- 6) Has the portfolio helped you to realize your strong points and your weak points in the professional education process and for life? If it has, please explain it.

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- 7) Before, were you able to relate your previous knowledge (knowledge from other disciplines or what you had already learned) to the knowledge acquired in the discipline of Health Policies?
  - 8) Has the construction of the portfolio helped in the nutritionist's or nurse's education to work in the SUS? In what way?
  - 9) Report one or more episodes or situations that have marked you and have made you reflect during the process of construction of the collective portfolio.
  - 10) Has the process of construction of the portfolio contributed to the interaction with your colleagues (student-student)? If it has, in what way? If it hasn't, why?
  - 11) Has the process of construction of the portfolio contributed to the interaction with the teachers (teacher-student)? If it has, in what way? If it hasn't, why?
  - 12) What are the strong points and the weak points of teamwork in the process of construction of the portfolio?
  - 13) Please cite some characteristics related to group work that were enabled by the process of construction of the collective portfolio.
  - 14) When you started the construction of the collective portfolio, what were the feelings, perceptions and emotions that you experienced?
  - 15) At the end of the construction of the portfolio, what were the feelings, perceptions and emotions that you experienced?
  - 16) Which stage of the portfolio did you most enjoy doing? Why?
  - 17) To you, are there any differences between the portfolio and a traditional group work?
  - 18) What is the difference between the portfolio and the test as evaluation methods?
  - 19) To you, what is learning?
  - 20) How do you learn best?
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The research was submitted to and approved by the Research Ethics Committee of the *Universidade Federal de Viçosa*, protocol no. 135/2012/CEPH/05-12-28, in conformity with Resolution no. 466/2012 of Brazil's National Health Council, which regulates research involving human beings. The students' free and clarified consent was requested so that they could participate in the study. The secrecy of the information and the students' anonymity were guaranteed.

The data were analyzed by means of Content Analysis<sup>8,9</sup>, in light of the Social Representations Theory. After a global interpretation of the answers, the material was organized according to the context units. General categories were constructed in order to form a comprehensive panorama of the analyzed material. Subsequently, the categories were grouped

and, after readings, they were re-elaborated in a synthetic way and compared with the observations and bibliographic studies to guide the study's discussions and conclusions.

The three questions that guided the study were: How do the students interpret their reality? How do they interpret the portfolio as an innovative methodology of the teaching, learning and evaluation process? Does the portfolio enable students to modify their personal and social conducts? The questions guided the organization of the data from two perspectives: the student's position in the learning scenarios and the apprehension of the portfolio as innovative in the social environment (in the learning and evaluation dimensions).

## Results

### The student in the learning scenarios

The students' reality was expressed by them through the following questions: Who are we? How do we learn?

The students portrayed a passive position concerning the institution, the program and the teachers, holders of knowledge. They expressed that they perceive their passivity in relation to the traditional form of teaching; however, they did not point to action and/or reaction paths.

Paradoxically, at the same time that they manifested dissatisfactions, these were accompanied by indifference: "it has always been like this". The students receive content-based teaching without questioning it (Chart 2).

**Chart 2.** Students' perception of the teaching and learning process experienced in the university context, according to testimonies in focus groups conducted at the end of the school year in 2011, 2012 and 2013.

"I think that, in the majority of the disciplines, you have to know a lot of things by heart. Sometimes we can assimilate them, sometimes we can't. It's a very mechanic approach and we don't have space to say anything."

"We're forced to memorize contents but we don't have time. There are too many things to learn in little time; there's too much content."

"This is the way it goes here: you study, you get your grades and then you forget everything. The system is based on grades for efficiency coefficients; if you have a good coefficient, you have chances of earning a scholarship and you can get better internships. You are the grade you get."

"Guys, it has always been like this and I think it'll never change, because changing takes a lot of effort. The portfolio is laborious and we're not used to laborious things."

"It's true: I had a very hard time at the beginning of the construction of the portfolio. I couldn't understand how to do it, how to use my creativity; the university doesn't teach us how to do it..."

"But I don't think the blame is only of the teachers or the system. We can't be left out of it. We're here to think, we have to question more."

"I think the test has its place, as it sees the individual potential and forces us to study... but it can't be just tests."

"Our learning reality is very theoretical; the internship takes place only at the end. I learn with practice, that's why I miss creative methods like the portfolio."

In the students' perspective, the educational system revolves around scores and classification tests, not around learning. Evaluation is seen as a way of testing knowledge and classifying students as those who are able and those who are not able to exercise their profession and to act in society. Thus, students study to obtain good grades in the evaluations and not to learn. To them, not always does the grade represent the learning process as a whole.

### **The apprehension of the portfolio as an innovative learning method**

The findings of this study revealed the following meaning nuclei based on the students' apprehension of the portfolio as a learning method: facilities in the understanding of the content, autonomy, freedom, and critical-reflective posture. As for the portfolio as an evaluation method, the following meaning nuclei were considered: the mistake as an opportunity, interaction with the teacher and a differentiated environment due to the transparency of non-punitive evaluation criteria. Some points of convergence and/or conflict were also identified: time as a hindering factor in the construction of the activities and in teamwork, reflection as discovery or as nuisance, and the portfolio as an innovative method in a traditional teaching context.

Regarding the learning process, the portfolio enables the understanding of contents and also of the necessary skills and attitudes for the student and future healthcare professional to act in the paradigm of the Social Production of Health and of the *Sistema Único de Saúde* (SUS – Brazil's National Healthcare System), as shown by the students' testimonies in Chart 3.



**Chart 3.** Students' representations of the LEARNING process enabled by the portfolio.

Understanding of the content (Health policies – SUS)
<p>"The search for news reports, texts, songs, cartoons helped us to relate theory to practice. Sometimes I read a news report about the health sector and I thought, "This is what the teacher meant." (I15)</p> <p>"What's cool about the portfolio is that I learned with the searches I made. I formed my knowledge about the SUS. Today I have a different idea of the SUS: it's not only for poor people, and I myself discovered this. The teacher said it in the classroom, I read the articles that she recommended, but in the portfolio I searched by myself. I saw and learned that the SUS is our policy, and it's not just for poor people; it's for everybody." (I09)</p> <p>"The portfolio helped me to link things. At the beginning I thought that the texts were very difficult and I had to read a lot to be able to reflect on the themes. I thought: "Oh, my God, I won't be able to do it!" But this helped me understand the health paradigms and that a biological and fragmented view of the human being is rooted in us. In the portfolio, I had the chance not to memorize this; I made drawings and used my creativity to express what I was learning and feeling." (I10)</p>
Autonomy and Freedom
<p>"We can put in the portfolio what we find interesting, although the teacher instructs us in the steps we must follow. It's not something closed; we can exercise our creativity, we can color, paint, draw, synthesize, make schemata relating it to what we're learning in the classroom." (I55)</p> <p>"The interesting part is what we do in the portfolio. We research; there's a little of ourselves in the portfolio. Although the teacher evaluates it and tells us her opinion, we can do it by ourselves. For example, there was one part that we called "Look what we've found". We ourselves made the searches, we did it and we found things, it wasn't the teacher who told us about it, we discovered things. I think that we learn better this way." (I43)</p> <p>"If there was something I learned with the portfolio was how to search for things, to reflect on them and to argue in the group that what I had found was important. I've always received everything ready and I demanded this from the teacher. I had a hard time in the portfolio because of it; I had to make searches, look for things by myself and defend my idea." (I67)</p> <p>"I don't learn under pressure. I retreat when something imprisons me, it's like I block myself. I noticed it during this semester: I did better in the discipline that was well guided but gave me freedom to do and construct things. I think that things must have lightness so that we can enjoy doing them." (I27)</p>

### Criticism-Reflection

"One thing I learned with the portfolio was not to accept everything people say as truths. For example, I've always thought that the SUS was for poor people, that the SUS was bad. The media only shows the dark side of the SUS. So, I've learned to have critical thinking – is this true? And to search for the reason for things." (I24)

"In the portfolio we were forced to think and reflect. The teacher always asked us to mention other points of view and discuss with the authors. I found it very hard, I'm not used to doing it, but then I saw how much I've grown. Today I watch a news program and I don't accept everything they say as the absolute truth." (I41)

"It's funny to say that we need to reflect. It seems so obvious: we think all the time. But when we really thought about it, we realized that we're alienated, and the portfolio made me see the extent of my alienation. We put in the portfolio many things about the protests against corruption in Brazil and I thought that all of this has impacted me a lot, and that I was far from the things that happen in the world." (I33)

The students emphasized autonomy and freedom as key points in the process of construction of the portfolio, which leads to a reconstruction of their role as agents in the learning process. In the reports, "I" was identified as the subject in action: "I do", "I research", "I search", "I find", which shows the change in their role: from passive to active agent. Freedom of expression and active search are highlighted in the comparisons with other evaluation instruments, such as tests and traditional group works. In this line, it is possible to highlight the students' freedom in the development of activities, expressing opinions, creating ideas and including what they consider relevant and significant for the construction of their own learning. Thus, autonomy and freedom walk together in this process. The rigor of the method does not exclude the possibility of expressing and constructing learning with freedom and autonomy; on the contrary, it stimulates the exercise of these competences.

In addition, according to the students' perception, reflection and criticism are important elements of the portfolio. They highlight the possibility of learning beyond understanding contents: extending their horizons and questioning what is presented by the media and other sources of information.

However, although autonomy and creativity are stimulated during the entire construction of the portfolio, the time factor, the reflection process, the use of the portfolio in a context of traditional teaching and teamwork emerge as encouraging and/or hindering factors (Chart 4). It is interesting to notice that, according to the students' perceptions, the university is not a space for reflection; rather, it is a space for memorizing contents.

**Chart 4.** Encouraging and/or hindering points presented by the students in the process of construction of the portfolio.

Time
<p>"The portfolio is interesting but very laborious. It's necessary to dedicate a lot of time to it. Taking tests is easier due to the available time we have." (I83)</p> <p>"We created a group on Facebook and this helped us a lot. We didn't have time to meet every week because in the group there were people from different classes and different programs, but in the Facebook group we talked almost every day and discussed the news reports, articles and cartoons we'd found." (I101)</p> <p>"Everybody complains about lack of time, but what can we do? We have to do it and we have to find a way to do it well. In fact, we have to organize ourselves better – Time Management. Everybody does everything at the last minute. I think we don't know how to study." (I72)</p>
Reflection
<p>"I don't know, I used to find it weird to evaluate what I think and reflect; it's private stuff. I have difficulties in separating what the authors think from what I think. Sometimes I think I'm not mature enough to discuss with the authors, and the portfolio helped me exercise the reflection process." (I75)</p> <p>"I think that reflecting means giving my opinion. It's hard, I'd never thought about it. Sometimes, I think that what is important is to mention the opinion of other authors; not mine. I really must exercise reflection and the university doesn't give us a chance to do it. (I56)</p> <p>"In the university, we don't have spaces to reflect and think. We learn to memorize and repeat what the teacher transmits. I can read slides at home. The portfolio gave me the opportunity to really think and exercise reflection." (I51)</p>
The portfolio as an innovative method in a traditional teaching context
<p>We're not used to performing a task like this, it's hard for us. Only in the middle of the semester did we understand what a portfolio was. We don't know how to reflect and be creative; we used to do it only in primary school." (I29)</p> <p>"Constructing the portfolio is very good, but what's bad is that I'm enrolled in 33 credits this semester – it's what must be done, according to the curriculum framework. The portfolio demands dedication, but I don't have the time I'd like to have." (I13)</p>

<p>"We started constructing the portfolio as if it were a file. In the first evaluation we put the pieces of information in it and there it was. Then the teacher said it was important to include what the group thought about what we had read. I had to change my way of thinking. In the university we learn to present the information of others, to memorize what they say and stand by their opinion, and not to form ours. It was hard for me; the portfolio really impacts us." (I31)</p>
<p><b>Teamwork</b></p>
<p>"At the end of the construction of the portfolio, we had to write a text. What was good about it is that we had to build this; we had to reach a consensus. The five of us were working on this task and at the beginning nothing came out of it; we thought, we wrote a sentence, we erased it, and all of a sudden, we began to brainstorm, everybody started talking at the same time. The result was nice, the text became so beautiful that we couldn't believe we had been capable of writing it. It seemed a very scientific piece of writing. Then we realized that we only did it because each one of us proposed an idea, each one of us put something of herself in it, and then I said 'in fact, none of us is as good as all of us together', and it was really beautiful, you know? This work of cooperation with the other, and it was only possible because we had the freedom to construct in the portfolio and we exercised it." (I05)</p> <p>Working as a team is hard for me. In the portfolio we could not distribute the activities like in the other tasks, and we had to reach conclusions and decide everything together. I think it's easier to do it myself, take my part and do it; people are complicated, some of them do not take it seriously. On the other hand, this is what I'm going to experience out there, and I have to learn how to deal with it, right?" (I76)</p>

In the process of construction of the portfolio, teamwork was crucial to foster a consolidated learning. In groups, the students highlighted the possibility of learning issues that surpass the contents and go beyond traditional teaching. They learn to be more patient, to respect differences, to have solidarity and compassion and to discover, in friendship and partnership, the possibility of building something together. The highlight, in comparison with traditional tasks, is the possibility of action of all the members of the group, each one giving his or her contribution with their personal and specific skills, and also the possibility of exercising conflict management, which is very common in teamwork.

The students consider that the learning process enabled by the portfolio is deep; it is not superficial, it is something that stays in their memory, something that they do not forget. All the attributes and nuclei that were found characterize the portfolio as a possibility of innovating the traditional way of learning. Mixed with the old way, the new is remodeled for the construction of knowledge that remains and interferes in these students' way of being. They apprehend the portfolio as a possibility, even with the environment and time difficulties, of advancing in their process of professional education.

As for the apprehension of the portfolio as an evaluation method, difficulties and mistakes are perceived as opportunities and not as disabilities and weaknesses (Chart 5). The following terms were common in the students' discourses: "I can make mistakes", "I know what I did wrong", "I have the chance of fixing it", "I can correct it", and "I can rewrite it". The opportunity of interacting with the teacher in the evaluation moments was also highlighted as a strong point. The students argue that it is in this dialogic relationship between teacher and student that the transformation of the process of teaching and learning happens - especially the process of evaluation -, stimulating autonomy, creativity and empowerment.

**Chart 5.** Students' social representations of the EVALUATION process enabled by the portfolio.

The Mistake as an Opportunity
<p>"I think that the portfolio is a fairer evaluation method, because many times the test is a copy; you memorize contents to take the test and some hours later you don't remember anything. Besides, you can't make mistakes and you can't correct them. Sometimes, I don't know why I made the mistake and I spend the rest of the course without knowing it and repeating the same mistake. In the portfolio, you really construct learning and don't forget it anymore." (I16)</p> <p>"The portfolio allows going back to what you don't know and changing it. Then I understand why I was wrong and where the problem is. I think this is good for us; in the university, sometimes we don't have time to reflect on what we do. Sometimes, the teachers give us tests and we don't even know what we did wrong or why; they don't show us the corrected test and we don't ask them to do it, either." (I13)</p> <p>"I remember that, on the evaluation day, the teacher told us that we were not mentioning our opinion, our reflections, and that we had put the news in it and that was it. Then I realized that we were making a file and not a portfolio. With this, the group noticed that we were doing it wrongly and we had the chance to fix it: in the next evaluation, there was more of us in the portfolio. We're not used to it, to think about our mistakes." (I07)</p> <p>"I've never liked evaluating myself. I blame myself, so much so that I've never asked a teacher to show me my grades. I let it go. In the evaluations, I get anxious and I'm scared of the teacher. In the evaluations of the portfolio, I saw that it wasn't so bad, as it helped me to see flaws and I could fix them." (I10)</p>
The interaction process
<p>"The work of construction of the portfolio made me get to know the members of the group better. Our interaction and integration surprised me. At the beginning, I didn't know my colleagues, I didn't have contact with the girls, and then we created friendship bonds due to the group work that I'll take with me forever." (I35)</p>

"Do you know what teamwork means? We had a great interaction. All the group members got involved and each one did what she was best at. Some had artistic talents and creativity skills, others wrote well, others had spirit of leadership, so one thing added to the other and it worked." (I99)

"The interaction with the teacher happened especially in the evaluation moments. It was important because then we got to know what she wanted exactly; she always gave tips to the next evaluations. So we grew a lot with this. I was very scared of the portfolio at the beginning, but after I understood it... now I don't want to hand it in; it's mine." (I81)

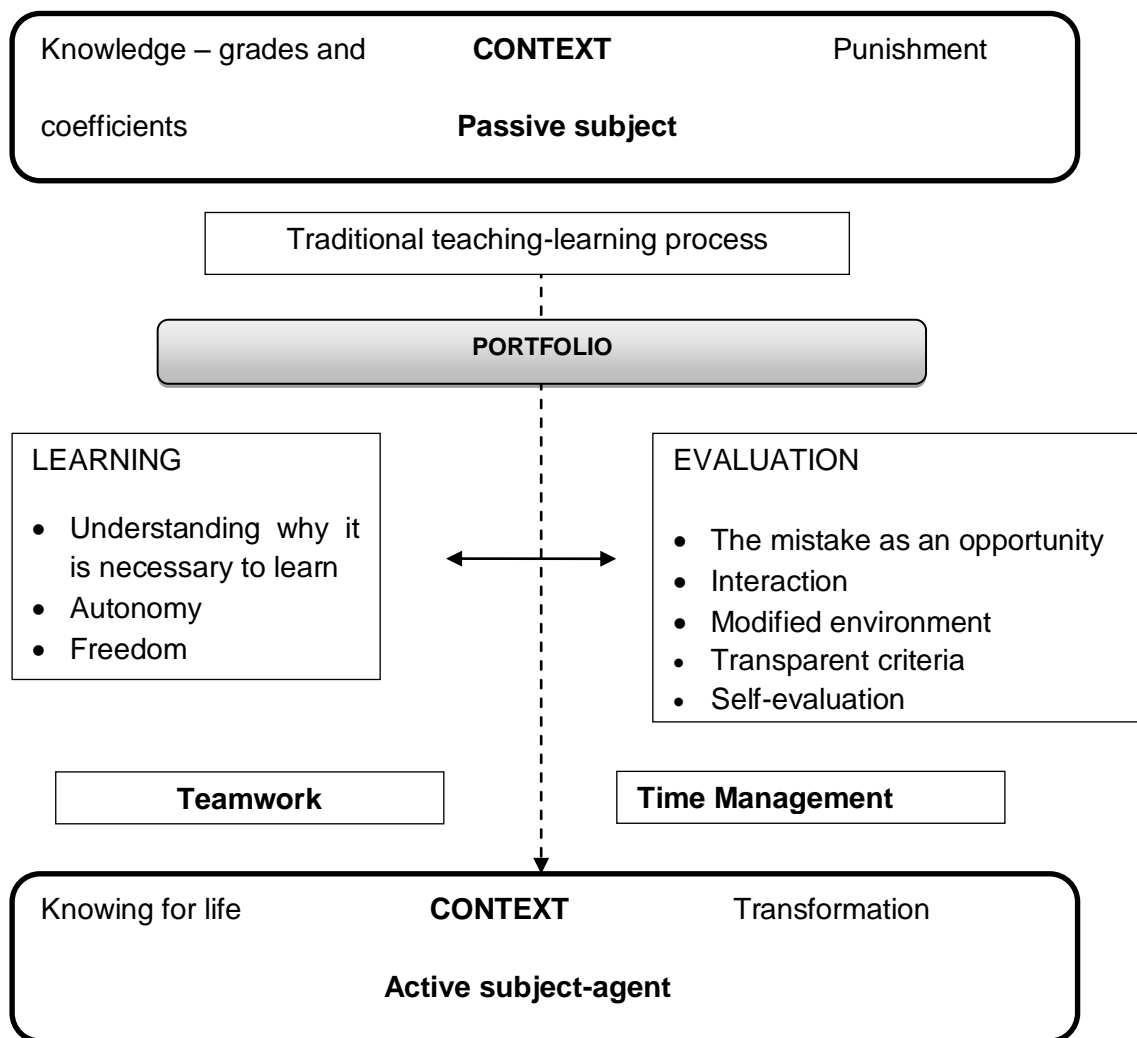
**Welcoming environment: transparency of evaluation criteria, non-punishment and appreciative evaluation.**

"What I liked most in the portfolio was knowing what was going to be asked; we never know what is expected from us. The teacher handed a material for us to make the group's self-evaluation, then she evaluated the group and handed her evaluation to us. This was very good because we saw what we needed to change." (I18)

"It was different from a test, in which we get tense. The atmosphere was different, and as we could fix it, we became calmer. It was possible to improve it later and this was good." (I01)

"It was good to show what we had done. It was a lot of work, so we wanted to show it to the teacher, we were proud of our portfolio. It was good to show what we had learned and we weren't tense, we didn't do it under pressure." (I44)

Thus, the students highlight the welcoming environment characterized by transparent evaluation criteria, which are appreciative, instead of punitive, allowing a constructive education where the mistake is presented as a possibility of learning. Figure 1 presents a synthesis of the results, showing the portfolio as a method that potentializes changes and transforms the students' context.



**Figure 1.** Undergraduate health students' social representation of the learning process enabled by the construction of the portfolio, in the perspective of changes in the students' scenario and context at a federal university.

## Discussion

The traditional education context strongly marked by disciplinarity<sup>10</sup> hardly prepares our young students to experience the complexity that characterizes today's world. The teaching that is strongly influenced by the Western tradition, which focuses on "logical mathematical thought and rationality, does not potentialize the global development of the person and easily discriminates or loses those who do not adapt to this paradigm"<sup>10</sup> (p. 19). It is in this scenario that the portfolio is included: an innovative teaching, learning and evaluation method that brings with it a differentiated educational praxis which provides students with an alternative form of learning and opens spaces to the transformation of significant learning - and to life.

When Moscovici<sup>4</sup> introduced the Social Representations Theory, he highlighted the existence of two distinct processes in the transposition of objective elements to the cognitive environment and vice-versa: objectivation, in which abstract ideas are transformed into concrete images when ideas and images that focus on the same matter are regrouped; and anchoring, in

which ideas are linked through the assimilation of the images created by objectivation, a process in which new images add to the previous ones; thus, new concepts are born.

In this context, the portfolio is apprehended by the students in a cognitive perspective based on these two processes: objectivation, as they transform an abstract idea of the portfolio into a concrete idea (through the studied and formulated concepts); and anchoring, in which new ideas of this innovative process add to the images of teaching, which should, and could, be different (previous ideas). Thus, new concepts or ideas are born, that is, the portfolio allows to think, to reflect, to create the student as the agent of this process.

Moscovici <sup>4</sup> has argued "that the purpose of all representations is to make something that is unfamiliar, or the very unfamiliarity, become familiar. Familiarization is always a constructive process of anchoring" (p. 20), which, in this study, is verified by the familiarity given by the students to the process of construction of the portfolio. What used to be strange in the portfolio (development of creativity, of reflection, among others), unknown, distant from the university reality, starts to be part of the students' daily routine.

It is interesting to notice that this process does not happen only in the cognitive scope of a particular object, but also when the subject (individual or group) acquires capacity for definition, an identity function<sup>4</sup>. Thus, it is important to notice that the students behave and see themselves as subjects affected by a system that determines a learning condition associated with grades and memorization. According to Jodelet (*apud* Moscovici, 2003)<sup>4</sup>, "representation is a form of practical knowledge and refers to the experience from which this knowledge is produced and, above all, to the fact that representation is employed so that the subject can act over the world and over the others" (p. 43).

Based on the students' experience in this study, new paths are introduced towards a differentiated attitude and way of acting in the learning process. The most remarkable and intriguing attitude presented by the students is the process of criticism and reflection, something that, according to them, is not enabled, generally speaking, in the students' environment. It is here that the students' identification as active subjects happens, as the representation process delimited by them brings changes in their way of acting. It is reflection that promotes the possibility of abandoning a passive attitude towards an attitude that promotes changes in the traditional teaching scenario. Sá Chaves<sup>2</sup> (p. 13) has argued that "reflection is a way of reliving and recapturing the experience with the aim of inscribing in a sense, of learning from it and, in this process, of developing new understandings and appreciations". Thus, from the praxis of construction of the portfolio, two other elements emerged: freedom and autonomy, which can be analyzed based on the concepts proposed by distinguished thinkers of our time: Amrtya Sen<sup>3</sup> and Paulo Freire<sup>11</sup>. These two concepts intertwine - autonomy must be conquered, acquired from decisions, experiences and through freedom itself. Autonomy, in addition to one's freedom to think by oneself, in addition to one's capacity for guiding oneself by principles that agree with one's own reason, involves the capacity for accomplishing, which requires an attitude of being conscious and



active – thus, the passive subject is the contrary of the autonomous subject<sup>11</sup>. Sen<sup>3</sup> has argued that development is freedom and has presented two important elements: capacity, which represents the possible combinations of potentialities and situations that a person is able to “be” or “do”, and functionality, which represents the several things that this person can, in fact, do.

In this perspective, the portfolio was a facilitating element for a formative education when it allowed the students to act as agents of their own process of learning construction, with autonomy to make their searches, with the possibility of reformulating their ideas and presenting them in a critical and reflective way, as well as opening spaces of freedom to create and recreate<sup>12</sup>.

### **Final remarks**

In view of the findings of this study, it is important to mention that the learning process experienced by the students in the construction of the portfolios enabled them to represent this social phenomenon and to point at elements that characterize it as a method that invests in the transformation of a traditional teaching practice into an innovative practice. The aim is the qualification of future healthcare professionals who ally elements of integration and reflectivity, which are necessary in order to solve the complex problems of the contemporary society.

The students' reality was interpreted by them as a system governed by grades and efficiency coefficients that classify them as able or unable: a context that determines the formation of doing, not of being. The students interpret the portfolio as an innovative method that allowed autonomous, liberating, reflective, critical and creative learning, thus gathering the elements for a formation towards being. It subsidizes the emergence of an identity (being a student) in the process of reflection-action that is capable of promoting changes in the students' context. However, due to elements that influence these modifications, such as the traditional curricular format, which is discipline- and content-based, conflicts emerge, referring to the management of time, which is usually scarce, and to teamwork. These elements can hinder the innovative learning process.

Furthermore, it is necessary to highlight the importance of the portfolio as an innovative evaluation method. In the students' perception, the evaluation that is fostered by the portfolio is part of the learning process, which contributes to an argumentation in favor of the innovative teaching and learning methodologies.

Therefore, we suggest that other studies are carried out in order to provide significant and sufficient evidences to subsidize the necessary changes in the teaching-learning process, either in the (re)formulation of integrated curricula, or in the qualification of teachers to use active and innovative methodologies, or else, in the organization of the institutional structure, (re)qualifying the way of teaching, learning and evaluating.

## Collaborators

Glauce Dias da Costa was responsible for conceiving the theme, collecting and analyzing the data, and for writing the paper. Rosângela Minardi Mitre Cotta was responsible for constructing the collective portfolio method, supervising data collection and analysis and reviewing the written text.

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