



RESEARCH ARTICLE

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## PERCEPTION OF STUDENTS ABOUT INTERDISCIPLINARITY AS A METHOD OF TEACHING

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### ARTICLE INFO

#### Article History:

Received 14<sup>th</sup> February, 2019

Received in revised form

28<sup>th</sup> March, 2019

Accepted 11<sup>th</sup> April, 2019

Published online 30<sup>th</sup> May, 2019

#### Key Words:

Education.

Higher Education and

Interdisciplinarity.

### ABSTRACT

The graduation in Higher Education in the field of health presents a pedagogical model with a view to directing the professionals for the specialization of the precocious form contemplating in its formation a biologist model. In this context, the interdisciplinarity presents the possibility of enhancing knowledge and contemplating not only the scientific knowledge and technological advances, but also the wide range of possibilities in which the health area needs. In this sense, the objective of the study was to understand the students' perception of interdisciplinarity as a teaching method. It is an exploratory and qualitative approach. Information collection was carried out in the period of March 2019, through the application of a questionnaire to the students of the fourth and fifth semesters of the physiotherapy course of a private institution in Vitória da Conquista, Bahia. The data were analyzed in stages, according to the Bardin content analysis method. In view of the facts and results obtained, it can be inferred that interdisciplinarity as a teaching method was well understood and accepted by most of the students, who consider it a method capable of providing important driving benefits in the disciplines and, finally, in his academic formation.

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Citation: Samara Novaes dos Santos; Patrícia Pinto Chaves; Jairo do Carmo Pirajá Júnior et al. 2019. "Perception of students about interdisciplinarity as a method of teaching", *International Journal of Development Research*, 09, (05), 27861-27865.

### INTRODUCTION

In the field of Higher Education in the health area the pedagogical model aims that professionals are targeted the specialization of precocious form, contemplating in its formation a biologist model. In this context, the interdisciplinarity presents the possibility of enhancing knowledge and contemplating not only the scientific knowledge and technological advances, but also the wide

range of possibilities in which the health area needs. (Feuerwerker, 2002; Guedes et al., 2010). Japaissu (1976) describes in his work that interdisciplinarity is the interaction of disciplines, one must then understand the meaning of "interdisciplinary", to understand "discipline". It emphasizes that discipline has the same of "science", of "disciplinarity", which has as its peculiarity the domain of the object of study in which it concerned. In this way, interdisciplinarity is the junction of different disciplines for the construction of a new knowledge. This educational method must be present both in theory and practice (Gattás, 2006; Paviane, 2003). Interdisciplinarity advocates its development for a link

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between education, work and social practices. With a view to a globalized and contextualized education profile, it provides the student with practice in simulated or real situations, so that he can act efficiently in the chosen knowledge area (Fazenda and Godoy, 2014). The interdisciplinary practice in education offers not only greater possibilities for learning, but also the view of the whole that it allows to create, as well as, it leads to greater motivation for students, especially when it is carried out in a way that integrates all fields of human knowledge into diverse activities. of the classroom (Santos and Vieira, 2011). The disciplines when they are worked in a fragmented way become a challenge for the training of health professionals, especially the physiotherapist, who has as a professional characteristic a preventive, curative and rehabilitation role, which leads to a teaching constructed with different knowledge, with the need to aggregate a range of knowledge to better understand and meet the complexities of their patients (Carvalho *et al.*, 2018). Silva e Torres (2014) report that most of the students have no understanding of interdisciplinarity, because teachers do not apply this method of teaching frequently. The authors point out that this approach has the objective of diversifying and modernizing the educational process by offering knowledge with innovations to the students in order to overcome the fractioned thoughts, provoking correlations between the teachings, to promote the expansion in practice. Thus, students' knowledge should not be limited to traditional academic models that only contemplate their area of knowledge, since the labor market demands more and more professionals that contemplate different knowledge. This study becomes relevant because it deals with the interdisciplinarity in higher education analyzing the view of the students of a Higher Education institution about this strategy. Based on this premise, this research presents as a general objective to understand the students' perception of interdisciplinarity as a teaching method.

## MATERIALS AND METHODS

The present research is a descriptive and exploratory study, with a qualitative approach, carried out in a private higher education institution in the city of Vitória da Conquista – Bahia. The study adopted as inclusion criteria all the students duly enrolled and regularized in the 4th and 5th semesters of the Physiotherapy course, these were students who from the first semester participated in interdisciplinary activities in the institution. We excluded the students that the researchers of the research had difficulty finding, after three failed attempts, in different shifts and schedules; those who refused to participate in the survey, or or those who did not complete the questionnaire. The data collection was initiated after approval of the study by the Ethics Committee of the institution of Higher Education, containing the Opinion No. 3.101.457. The data collection period was in March 2019, the study researchers were invited to participate in the study of the 4th and 5th semesters of the Physiotherapy course, explaining the objectives, risks and benefits of the present study. It was clarified that they could give up participating at any time without any kind of penalty. Those who agreed to participate in the study were given a free informed consent form (APPENDIX A), which was signed in two ways, respecting the ethical aspects according to Resolution 466/12 of the National Health Council. The students participating in the research were individually directed to a closed study room in order to provide greater privacy to answer a questionnaire (APPENDIX B) prepared by the researchers. The

questionnaire contained questions about the sociodemographic aspects (name, sex and age) and the training of the students (course, semester and shift). In addition, there were four guiding questions related to interdisciplinarity as a teaching method, seeking to understand students' perceptions about: understanding about what is interdisciplinarity; the positive and negative aspects of classes that use interdisciplinarity; the classes that use interdisciplinarity are able to awaken reflections in the students. While the participants answered the questionnaire, one of the researchers remained available to clarify any questions about the questions. After the data collection, the researchers carried out the reading of the material characterizing the saturation of information and performing the categorization of the data. Data analysis was performed in steps according to the Bardin content analysis method. The steps of the Bardin content analysis are organized in the following phases: pre-analysis, material exploration and treatment of results, inference and interpretation. The pre-analysis focuses on the complete reading of the material chosen for the analysis, systematizing the material to be investigated. Exploration consists in segregating the important aspects, summarizing the paragraphs and substantiating the notes. And the last phase is responsible for absorbing the contents of the material obtained (Silva and Fossá, 2015).

## RESULTS AND DISCUSSION

Twenty students aged 18 to 36 years were identified as D1, D2, D3 [...], D20; following a random numerical sequence in order to preserve participants' privacy. The results were divided into three domains for better explanation and discussion. The first item deals with the knowledge of the students of the course of physiotherapy on interdisciplinarity, the second domain refers to the experience of the students of the physiotherapy course in relation to the practices of interdisciplinarity used in the classroom, highlighting the positive and negative aspects. Finally, the last item reports if the classes that use interdisciplinarity stimulate reflections in the students.

**Knowledge of the students of the physiotherapy course on interdisciplinarity:** The method of teaching based on interdisciplinarity in Higher Education has been debated among professionals in the area for some years, themes that involve social changes in education; students' ability to reflect and labor market perspectives after the formation of students, structure discussions that seek to restructure the development of the learning process (Santos *et al.*, 2011). When the students participating in the research were questioned about their understanding of what is interdisciplinary, most of them related the connection between two or more disciplines as follows:

- *“It is the combination of two or more disciplines aimed at promoting an association between contents for a more global understanding.” (D1)*
- *“It is the mixture of two or more disciplines that work together in order to better learn the students.” (D6)*
- *“The association and integration of different disciplines or disciplines, in order to allow an extended view on a certain subject.” (D8)*
- *“Interdisciplinarity is the set of disciplines that interact to share their knowledge, ideas and studies.” (D15)*
- *“I believe it is a method where several areas come together for a purpose, to show that we need an entire team to*

*carry out activities, or even knowledge of more than one area(...).” (D18)*

According to the above reports we noticed that the students present an understanding about interdisciplinarity in consonance with Carvalho *et al.* (2018) (2018), these authors define interdisciplinarity as the intercommunication between different disciplines, which entails changes in the existing relationships between disciplines and specialties, thus providing, the construction and consolidation of new knowledge, not restricting itself in a mere dialogue between disciplines and / or specialties. Ferreira (2011) refers that in the interdisciplinarity, the student becomes protagonist in its learning. In addition, the author reports that the articulation between distinct disciplines and the reflection provided between theory and practice are part of the interdisciplinary action directing the production of knowledge by the students. The educator Paulo Freire (1979, p. 50) states that "freedom is the matrix that gives meaning to an education, which can not be effective and effective only insofar as the students in it take part in a free and critical way" .

### **Experience of the students of the physiotherapy course in relation to the practices of interdisciplinarity used in the classroom**

**Positive aspects:** The students reported several positive points about the classes that use interdisciplinarity, among them: the incentive for students to think broadly about the connection they can make from one discipline to the other, understanding that both complement each other; the greater ease in learning the content addressed through the junction of knowledge of the different disciplines, as we verify next:

- *“Greater fixation of content, different and relaxed class, more than one teacher to add knowledge, association of content.” (D2)*
- *“Further knowledge, interaction, sharing of ideas” (D5)*
- *“(…) some disciplines have a connection with the other and when they are taught together knowledge becomes easier and better for understanding.” (D6)*
- *“Improves knowledge, learning is more dynamic, extends existing knowledge.” (D9)*
- *“(…) Integrality, globality, exchange of knowledge, respect for the colleague and its function.” (D19)*

Thus, through the reports of the students we perceive that the use of interdisciplinarity allows the integration of different disciplines that enable the develop the ability to associate them through a given content, providing a better understanding, a broader view, facilitating learning and allowing them the opportunity for a more comprehensive training. Linhares *et al.* (2014), when conducting a bibliographical survey about interdisciplinarity and its reflexes in the academic community, also observed positive points referring to this theme. According to the authors, interdisciplinarity is considered as the key to the decentralization of power, to offer a patient holistic view, as well as for the expansion and development of professionals' knowledge. Similar results were also obtained by Marques (2014) when analyzing interdisciplinarity as a factor of influence in the level of satisfaction of engineering students, where, when asked about this interdisciplinary evaluation, more than 65% of the students interviewed reported that the method helped to better understand the role of the subjects in the course and more than 70% considered it

more interesting that the test presented a transversal theme, thus proving the importance and effectiveness of interdisciplinarity in the teaching. The implementation of interdisciplinarity is capable of providing important benefits for university education such as general information exchange, extension and facilitation in the formation of the individual as a whole. Contributing to develop in the subject, a comprehensive view of their abilities and the role to be played in society, being able to understand and criticize the information received. Interdisciplinarity helps prepare individuals for professional training, in addition to ensuring and developing continuing education, which tends to provide a constant extension in their training (Guimarães and Magalhães, 2016).

**Negative aspects:** Most of the students reported that they did not perceive negative points, the few students who identified unfavorable aspects cited that the classes that use of the interdisciplinarity can generate dispersion of the students because the room is very full and with noise, making difficult the understanding of the subject. As we can see from the following accounts:

- *“Yes. It can create confusion on the subject, dispersion of the students.” (D2)*
- *“Yes. When you join two classes with different semesters because the room gets full, besides the knowledge that the semester ahead has the most, soon the staff of other semesters only listen and after that will see the real matter.” (D14)*
- *“Yes. Only when it has lots of people and gets disorganized. The lack of class interaction when activity is proposed.” (D18)*
- *“I do not see it as a negative aspect, because it will add to the knowledge of each student.” (D6)*
- *“I do not see how the interaction between groups can promote negative points.” (D10)*

We perceive through the students' reports that it is probably not the interdisciplinary approaches that are responsible for the mentioned negative aspects. Some teachers may not perform interdisciplinary activities appropriately and the lack of organization in conducting activities interdisciplinary studies by some teachers may have possibly caused a false negative impression about this teaching strategy. For Guimarães and Magalhães (2016) interdisciplinarity is capable of providing a connection between the phenomena studied in the different disciplines, this connection being the means by which there is the capacity to provide an environment that is more familiar to the student with respect to the effective understanding of the real meaning of that which is intended to be taught. However, if disciplinary content is not adequately contextualized, it tends to become complex, distant, and difficult to understand, which hampers student interest and motivation.

**Students' perception of the capacity of interdisciplinarity to foster reflections:** In the present study, it was identified that for the students the interdisciplinarity classes stimulate reflections through the exchange of knowledge; by deepening the content; for making them think broadly and differently; for demonstrating in practice that different disciplines intertwine. As we observed with the following reports:

- *“Yes. Because the ideas are shared, it brings questions and answers different of what has already been seen, but*

*the students reflect on the content, trying to solve it in a way that is clear." (D5)*

*- "Yes, Because it will show us a wider world where it is always possible to learn something more for our growth, both as people and as professionals in the future." (D6)*

*- - "Yes, because the students are capable of making new discoveries besides the incentive to be able to enter new opportunities, as well as exchanges of knowledge with other students and teachers" (D15)*

*- "Yes. It reflects on how a subject's content acts in response to other content" (D16)*

*"Yes. Sometimes certain subjects seem unnecessary and interdisciplinary classes makes think that everything has its need and its place." (D20)*

These resultados corroborate with what is proposed by Costa *et al.* (2015), which infers that interdisciplinarity has the potential to allow the formation of a student with the capacity to reflect and question. In this way, this method, when interacting with the subjects and disciplines, facilitates the knowledge, in better absorption of the content. By interacting practice with theory allows the immersion of the student in the scenario close to reality, which confronts their ability to reason about situations, and develop new knowledge. Gabriel *et al.* (2016) they append that the knowledge of other disciplines contributes to a broadening of vision and, by means of this, the integrated construction of a new knowledge. However, the authors report that this integration of disciplines can only be effectively absorbed when there is a link between theory and interdisciplinary practice.

### Ending Considerations

In front of fact addressed and the results obtained, it can be seen that interdisciplinarity as a teaching method was well understood and accepted by the research participants. The students considered the interdisciplinarity as a method capable to provide important driving benefits in the disciplines, in interaction with teachers, in promotion reflection e and in the best understanding about of contents. The present research was relevant to the academic area for having made it possible to understand the students' perception about interdisciplinarity as a teaching method. We suggest that this practice that is more explored and used to promote learning by stimulating a broad view of the contents and encouraging the critical-reflective capacity of the students.

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