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PEDAGOGICAL CHALLENGES OF TEACHING ACTIVITY ERGONOMICS IN POST-GRADUATE IN PUBLIC HEALTH

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Abstract: The training of researchers in the field of Occupational Health in the ergonomics of the Activity depends on specific pedagogical methods to develop or stimulate interest in the 'ethnographic look', a fundamental principle of the Ergonomic Work Analysis (AET). The objective of this text is to analyze the development of discipline on Ergonomics of the activity together with the postgraduate programs of the Faculty of Public Health of USP and FUNDACENTRO. In order to analyze the development of the discipline and discuss its pedagogical perspective, a documentary analysis was carried out as well as reflection of the teachers about their practice in the conception and conduction of the discipline. The main characteristics of the subject and the tools used to arouse students' interest in AET are presented and discussed. As every training process involves a change of perspective, which in the case of Ergonomics aims to seek to understand work through the experience of those who work, it is fundamental to develop pedagogical situations to confront the view of specialists, which a good part of the students carries or experiences, with the ethnographic view of ergonomists.

Keywords: Training, Ergonomic Work Analysis, Reflective Practice

1. INTRODUCTION

We are currently witnessing the dissemination of Ergonomics, especially Activity Ergonomics, within several postgraduate programs in different areas of knowledge in Brazil. In the field of Public Health and Worker's Health (ST), courses on Activity Ergonomics have been offered due to the interest in Ergonomic Work Analysis (AET) for understanding and coping with problems involving health and work (ASSUNAÇÃO, 2003).

As we know, the effectiveness of AET is due to its methods based on the ethnographic perspective (LIMA, 2001) that allow the association of the determinants of work, its influence on the development of the activity and its impact on health. In this way, work can be analyzed based on the experience of the workers themselves, leaving aside the assessment focused on risk factors (ASSUNAÇÃO, 2003), typical of traditional disciplines (safety engineering, medicine and occupational hygiene), or in value judgments about human behavior at work and health, which characterize the practice of some occupational safety or health specialists (LIMA, 2001).

However, training professionals or researchers in this perspective is not simple, since students in training already have degrees in another area (there is no degree in Ergonomics in Brazil and few specialization courses are offered), traditionally under the aegis of 'technical rationality' (SCHON, 2000). Training for the practice of AET, therefore, calls for new pedagogical perspectives based, for example, on the supervision of practical cases, whose objective is to lead students to analyze the activity from the perspective of workers in intervention situations (LIMA, 2001). Training students within this perspective in short courses is not viable. As students carry perspectives specific to their basic training (engineering, medicine, psychology, physiotherapy, occupational therapy, among others), which is legitimate, short-term courses

They cannot aim to train ergonomists in the practice of AET, but have a more modest objective, aiming to

awaken their interest in the 'ergonomic perspective' (JACKSON FILHO, 1999) and the ergonomic intervention methodology.

Furthermore, within the scope of postgraduate studies in ST, it is necessary to present different currents of research and trends in the world of work that influence the relationship between health and work. How to awaken and stimulate an ethnographic perspective and interest in AET, in addition to addressing the central issues that involve the relationships between health and work in contemporary times in a 60-hour course (4 credits)?

Within the perspective of reflection on educational practice (SCHON, 2000), the objective of this text is to analyze the development of the discipline 'Ergonomics of activity: concepts and methods for surveillance and prevention of work-related injuries', and discuss the pedagogical perspective adopted, which has been offered, since 2013, in the research line 'Organization of Production Processes and Workers' Health' of the postgraduate program in Public Health and in the research line 'surveillance in Environmental and Worker Health' of the Professional Master's Degree Environment Health and Sustainability, offered by the Faculty of Public Health of the University of São Paulo, and in the 'Work, health and environment' program at FUNDACENTRO.

2. METHOD

To analyze the development of the discipline and discuss the pedagogical perspective, a documentary analysis was carried out – plans and schedules of the disciplines since 2013, frequency lists, works presented, evaluation form of the discipline –, as well as reflection by teachers on their practice in the conception and conduct of discipline.

3 RESULTS AND DISCUSSION

3.1 Characteristics of the discipline

The objective of the course is to present AET and its contribution to the relationship between health and work in contemporary times, in addition to supervising the students'

first work observation experience. It is not intended to enable students to practice AET, but to arouse interest in it.

The subject, currently taught by 3 teachers, with 20 places offered, counts for 4 credits, totaling 60 hours – 20 hours of reading and 40 hours in class. In general, 10 four-hour classes are held weekly on Tuesday afternoons. It consists of expository classes on the AET methodology supported by images and films about work and the presentation of texts by students on the relationship between health and work, previously selected by teachers.

The students have diverse backgrounds – engineers, psychologists, physiotherapists, law graduates, nurses, doctors, administrators, among others –, from different locations in Brazil (evidently with a predominance of the state of São Paulo). Many of them belong to municipal, state and/or federal public institutions, especially those linked to the labor or health sector, including the Ministry of Labor, FUNDACENTRO, reference centers, health units, among others.

To date, 54 students have taken the subject: 16 in 2013, 18 in 2014, 20 in 2015.

During the course, students carry out case studies, observing simple work situations, the results of which are used to evaluate their performance (as well as the presentation of texts).

The objective of the assessment is not to check whether they can actually carry out AET, but whether they go into the field, whether they try to interact with the workers. The highest concepts are obtained, evidently, by the students who manage, in their case study, to approach the ethnographic perspective.

3.2 Pedagogical perspectives to stimulate an ethnographic perspective and the current context of the world of work

Given the limited time available, which does not favor complete supervision of intervention practice, the discipline seeks to stimulate an ethnographic look at the work, typical of AET, in some ways:

- Provoke during expository classes, through debates on certain 'intermediate objects' (a situation of demand for postural training for ultrasound doctors; photo/film of an operator working next to a sieve in a cement factory), spontaneous value judgments about the situation to then compare them with the course of action and its determinants. In this way, it is shown that behaviors at work (gestures, postures, interactions) are guided by the demands of the task, which can be learned through the workers' speech and through observations of the course of action (through a film, through example).
- The presentation of videos (about short-term work situations, around 20 minutes) allows you to reinforce AET concepts and methods, presented and discussed in class.
- Discussion around case studies carried out by students, individually or in pairs. The aim is to take advantage of both studies in which students are unable (making their analysis based on their professional training) and those in which students are able (or almost) to analyze the activity through the workers' perspective. The dialectic between an expert view and an ethnographic view is a fundamental tool for pointing out the differences and trying to 'change the students' representation of work' (DANIELLOU; BEGUIN, 2007).

During the seminars, current topics on the relationship between health and work and the contribution of Ergonomics are debated through the reading and presentation of texts by students, including: work intensification, methods of organization and management, mental health at work, among others. . As most students work professionally, debates are favored by their professional experience and practical experience of the phenomena covered in the texts (work goals, time pressure, conflicting relationships at work,

among others).

3.3 Student performance and subjective assessment

As previously stated, it is not expected that all students will be able to develop the 'ethnographic perspective', nor carry out complete AET in their case study. However, some of the students have carried out consistent analyses, which are used for collective learning.

In 2015, two extreme cases represent the range of case study results:

- in the first, a student (safety engineer) studied the activity of washing pots; The problem he aimed to address was the ergonomic risk of the activity (extreme postures). To do this, he used postural assessment tools. Clearly, his practice continued to focus on his specialty, aiming to identify ('ergonomic') risk and evaluate it.

- in the second, another student (bachelor in law) analyzed the work of a counter attendant at a court in the labor court, a task considered one of the most difficult, mainly due to relationships with lawyers. Contrary to courts, where other attendants only carried out that activity and received positions of trust, in the court analyzed, there was a rotation of all employees. In this way, the negative effects of the activity were diluted among everyone, and the change of activities allowed everyone to have a broad view of the service, in addition to greater interaction between them, leading to faster resolution of problems and reducing interaction time with lawyers. .

In general, the evaluation by students of the subject has been positive. The strengths of the course they highlighted were: the pedagogical method, the teachers' mastery, the texts used and the students' own achievement. The huge demand for registrations also indicates the positive evaluation of the discipline.

4 DISCUSSION

All 'training implies a change of perspective'... 'that is, in the way of seeing and perceiving the world and in the student's own personality'... In the case of ergonomics, the change of perspective means 'understanding behavior at work through the worker's own eyes'. (LIMA, 2001; p. 141) The objective of the discipline is not to train ergonomists, but to awaken the interest (of these researchers in training) in AET and the ethnographic perspective that AET seeks to develop to understand the relationships between health and work.

To do this, it is necessary to create pedagogical situations to compare the expert perspective, which most students carry or experience, with the ethnographic perspective of ergonomists in various work situations. Then, students undergo the AET 'light' practical experience.

Although some present sketches of a change of perspective towards an ethnographic perspective, most students are unable to tear themselves away from their specialty and way of seeing the work. This could indicate that the discipline does not advance...

It would not do so, in fact, if the tension between the specialist's vision and the ethnographic perspective were not taken advantage of during debates and work presentations. The existence of extreme situations, such as the two studies mentioned above, constitutes a fundamental pedagogical resource to be explored that aims to reinforce the methodological differences between these approaches, and the results that can be achieved, in addition to pointing out solutions and subsequent developments.

Evidently, experience in AET practice and teaching is a fundamental attribute for teachers to be able to use this dialectic in the classroom in order to influence the process of changing students' perspective and personality.

The biggest constraint for teachers is the time available for this training. The adequacy between number of students and time is fundamental to the effectiveness of this pedagogical proposal. The team recognizes the need to reflect on the evolution of the discipline and possible increase in the number of credits.

Furthermore, the option to reflect on practice, therefore based on available data (students' evaluations of the subject and results of observation practice), does not allow us to characterize the students' development process and the

change in perspective in a categorical way. It seems interesting to design a method, to be tested in the coming years, to try to capture the development of students throughout the course, based on developmental psychology (VYGOTSKY, 1991), which could indicate whether the pedagogical instruments adopted are sufficient or not to make enable trainees to analyze the work from the perspective of the observed workers.

5. CONCLUSION

The change of perspective or the awakening of interest in the 'ethnographic perspective', the object of the training process in Activity Ergonomics, requires extensive reflection and development of pedagogical resources. Although the results obtained so far in the discipline are satisfactory, the search for more tools and objects for the development of learning is fundamental.

It is expected that the debate and exchange of experiences with other ergonomists/teachers will help to develop the teaching of Activity Ergonomics, in order to favor the understanding of work through the eyes and experience of those who work.

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