

**ACTION TRAINING IN HEALTH, ENVIRONMENT AND WORK PROMOTION  
AND SURVEILLANCE: INTERDISCIPLINARITY IN THE USE OF REFLECTIVE  
PORTFOLIO**

**FORMAÇÃO-AÇÃO EM PROMOÇÃO E VIGILÂNCIA EM SAÚDE, AMBIENTE E  
TRABALHO: INTERDISCIPLINARIDADE NO USO DE PORTFÓLIO REFLEXIVO**

**FORMACIÓN-ACCIÓN EN PROMOCIÓN Y VIGILANCIA EN SALUD, MEDIO  
AMBIENTE Y TRABAJO: INTERDISCIPLINARIEDAD EN EL USO DE UN  
PORTAFOLIO REFLECTANTE**

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**ABSTRACT:** It analyzes the reflective portfolios prepared by the students of the Specialization Promotion and Surveillance in Health, Environment, Work as a pedagogical and evaluative instrument and its contribution to interdisciplinary training in health. An analysis of the discourse of the collective subject was carried out from a questionnaire and portfolios of 41 graduating students. The experience of the portfolios demonstrated the uniqueness of the students' reflection, related to the various interdisciplinary themes developed in an active pedagogical process of the theory-practice relationship, with an emancipatory and transformative perspective of social reality. The portfolio was presented as a pedagogical device that promotes the relationship between educator and student, whose complexity requires the construction of a critical-reflective thinking, directed towards a liberating health practice. The result of the use of this pedagogical instrument produces substantial effects on the teaching-learning process of the students, emphasizing interdisciplinarity as a structuring issue that integrates the interrelationships and interactions of different knowledge and knowledge in health education.

**KEYWORDS:** Health human resource training. Interdisciplinary placement. Environment and public health. Public health. Pedagogical methods.

**RESUMO:** *Analisa os portfólios reflexivos elaborados pelos educandos do curso de especialização Promoção e Vigilância em Saúde, Ambiente e Trabalho como instrumento pedagógico e avaliativo e a sua contribuição na formação interdisciplinar em saúde. Realizou-se análise do discurso do sujeito coletivo a partir de questionário e portfólios de 41 educandos egressos. A experiência dos portfólios demonstrou a singularidade na reflexão dos educandos, relacionadas às diversas temáticas interdisciplinares desenvolvidas em um processo pedagógico ativo da relação teoria-prática, com perspectiva emancipatória e transformadora da realidade social. O portfólio se apresentou como dispositivo pedagógico promotor da relação entre educador(a)-educando(a), cuja complexidade exige a construção de um pensamento crítico-reflexivo, direcionado para uma prática em saúde libertadora. O resultado do uso desse instrumento pedagógico produz efeitos substanciais no processo de ensino-aprendizagem dos educandos ressaltando a interdisciplinaridade como uma questão estruturadora que integra as inter-relações e interações de diferentes saberes e conhecimentos na formação em saúde.*

**PALAVRAS-CHAVE:** *Formação profissional em saúde. Práticas interdisciplinares. Saúde e ambiente. Saúde coletiva. Métodos pedagógicos.*

**RESUMEN:** *Se analizan los portafolios reflexivos elaborados por los estudiantes de la Especialización Promoción y Vigilancia en Salud, Medio Ambiente, Trabajo como instrumento pedagógico y evaluativo y su aporte a la formación interdisciplinaria en salud. Se realizó un análisis del discurso del sujeto colectivo a partir de un cuestionario y portafolios de 41 estudiantes de posgrado. La experiencia de los portafolios demostró la singularidad de la reflexión de los estudiantes, relacionada con los diversos temas interdisciplinarios desarrollados en un proceso pedagógico activo de la relación teoría-práctica, con una perspectiva emancipadora y transformadora de la realidad social. El portafolio fue presentado como un dispositivo pedagógico que promueve la relación entre educador y educando, cuya complejidad exige la construcción de un pensamiento crítico-reflexivo, direccionado para una práctica liberadora en salud. El resultado de la utilización de este instrumento pedagógico*

*produce efectos sustanciales en el proceso de enseñanza-aprendizaje de los estudiantes, destacando la interdisciplinariedad como cuestión estructurante que integra las interrelaciones e interacciones de diferentes saberes y saberes en educación en salud.*

**PALABRAS CLAVE:** Formación profesional en salud. Prácticas interdisciplinarias. Salud y medio ambiente. Salud pública. Métodos pedagógicos.

## Introduction

Interdisciplinarity is understood as an interrelationship and interaction of different knowledge, with the purpose of extrapolating disciplinary contributions. A meeting of methodological concepts and structures is observed, where the competencies of the disciplines are examined and expanded in order to transcend and cross fragmented knowledge. Thus, a complex correlation between disciplines from different scientific fields (life sciences, human and social sciences) is constituted in the field of collective health, seeking a dialogue between different concepts and methodologies, aiming at the construction of a common project of intense exchange of knowledge (LUZ, 2009; MEIRELLES; ERDMANN, 1999).

Training based on interdisciplinarity provides a structuring power, since perceptions and procedures are organized around more global, multiple, plural and nonlinear units, in search of understanding the complexity of the objects of analysis (ALMEIDA FILHO, 1997; MINAYO, 2010).

The Unified Health System (SUS) considers interdisciplinarity as one of the bases for the health education process (PASSOS; CARVALHO, 2015), because it presents a set of characteristics/qualities that support integral actions, being more resolute, especially when they are based on the needs of users (MINAYO, 2010).

Health education should be an interdisciplinary educational project that extrapolates education to the technical-scientific domain — which has social interest and relevance and that contributes to coping with the processes of social determination of the health-disease process. Collective Health is a field with interdisciplinary training by essence, which unites different disciplines and curricula, combining ways of thinking and instigating the way of training professionals from different areas to work (LUZ, 2009).

The learning process in the health area needs to be directed to comprehensive care, aiming at other modes of execution and evaluation, which enable critical thinking about real problems to formulate original and creative actions for the transformation of reality (CECCIM; CARVALHO, 2006).

Problematizing critical pedagogy is based on Paulo Freire's theoretical framework, which has as its principle a liberating, progressive, dialogical, reflexive, awareness-raising, transformative and emancipatory education (FREIRE, 2019a). The proposal is directed to the student's protagonism, considered the central point of the educational process and builder of their own learning, in which teachers and students learn through a pedagogy that seeks conversation and reciprocal collaboration, without subordination (FREIRE, 2013; WEYH; NEHRING; WEYH, 2020).

Changes in the National Curriculum Guidelines (DCN) in recent years have allowed important changes in academic courses (undergraduate and graduate), especially in professional health curricula (BRASIL, 2014). The changes favor the integration of new disciplines and foster interdisciplinary educational processes, in addition to encouraging active pedagogical methodologies, evidencing new ways of reflecting and practicing the teaching-learning process based on the needs of the professional scenario. It seeks to leave the technical pedagogy based on the mere transmission of knowledge, with passive students, receivers and content memorizers, for a training focused on various competencies, with skills and attitudes in changing and open scenarios, having production of criticisms, clear and explicit communication, based on a multidisciplinary work (COTTA *et al.*, 2015; COTTA; MARIE; COSTA, 2011).

Higher educational institutions have sought to adapt and include sociocultural, humanistic and biological aspects of being in an interdisciplinary and multiprofessional way in their curricular structure. In this training, it is recommended to take as reference the needs and the local reality of health, transformation of professional practices and work organization, which should be, above all, structured from the problematization of health work processes, valuing interprofessionality for integral care, without denying the importance of specific technical training (ABREU *et al.*, 2019).

Ceccim and Feuerwerker (2004) present the concept of quadrangle of training for the health area as a way to articulate this interaction between teaching, management, care and social control; and to promote, thus, crucial changes not only in the educational system, but from the health policies of the SUS leading participatory processes to promote the integration between teaching, service and community.

Considering these changes and aiming at the deepening of themes related to the interrelation of health, environment and work, the Specialization Course in Health, Environment and Labor Promotion and Surveillance (CEPVSAT) was constituted. The course was conducted from the articulation of the National Network of Physicians and Popular

Physicians (RNMMP), the requester of the training, with the Oswaldo Cruz Foundation (Fiocruz), through its Regional Units of Brasília and Pernambuco. The course aimed to develop knowledge through integrative and popular knowledge and practices, the experience of the different territories belonging to the semi-arid, science committed to life, the transdisciplinary and interdisciplinary perspective in health work, aiming at the construction of new models for the care of the individual and common goods, in line with the assumptions of Health Promotion and Surveillance from the perspective of the construction of Healthy and Sustainable Territories (SST) in the Semi-arid and in accordance with the Sustainable Development Goals (SDGs) and in order to meet the proposed 2030 Agenda (FENNER *et al.*, 2021).

Three (3) classes were held, one in Caruaru/PE, one in Fortaleza/CE and another in Palmas/TO, all having as a guiding principle the training-action, which can be explained as a training of health professionals in a territory (community) and with the purpose of resulting in positive changes in people's health and life, and in the way health teams work with the community, towards a critical and emancipatory reflection (FENNER *et al.*, 2021). The course included students who graduated in different areas (health, humanities, education), as well as participants whose highest level of education corresponded to the completed high school, being in these cases free course certificates issued.

Thus, the courses boosted institutional, interdisciplinary and territorial actions on environmental and health sustainability, through action-research and action training processes, inserting education and professional training as structuring axes.

Based on the pedagogy of alternation, which considers one moment in school (theory) and another in the community (practice), in an integrated way, with different educational times (reception times, class, reading, learning and study core (NAE), cultural activity, seminars and workshops, and care) and active methodologies - social cartography, participatory diagnosis, territorialization, problem-based learning (APB) and projects, problematization, tutorials, workshops, field diaries, narratives, reflective portfolios (PR). A Political-Pedagogical Commission (CPP) was established, with the participation of students for monitoring, decisions and evaluations on the activities of the course (FREIRE, 2019a).

Among the active methodologies, the course had as one of its pedagogical strategies the development of PR by the students, which reflect the construction of different knowledge throughout the Course, articulating theoretical moments, critical reflections and experiences in the territory. THE PR can be considered as a pedagogical instrument of learning and evaluation, which privileges the development of critical-reflexive thinking, intellectual independence and creativity of students (SÁ-CHAVES, 2009).

Freire (2019a) says that liberating or problematizing education is part of the principle of union of the set of circumstances and experiences lived in the period of formation of the subject, which happens through the conversation and the relationship established between the students and teachers. The PR worked in the course mediate so much about this teacher-student dialogue.

For CEPVSAT, the presentation of THE PR has a character in the evaluation of the student's performance, that is, it should be elaborated and presented to the teachers throughout the course, but it is not possible to have a specific evaluation of the contents or how it is organized. These characteristics are treated with a formative character, whose main interest is the understanding of the teaching-learning process experienced by the students and authors.

In the professional training developed by Fiocruz in the area of Health, Environment and Work (SAT), the PR has been used as an instrument of learning and formative evaluation, shared in face-to-face meetings or at a distance between students and teachers. The courses have enabled moments of interaction between the students and teachers to be able to present the way each one builds his/her PR, as well as moments of exchange of experiences, knowledge and knowledge; and interaction between the students, and followed by an evaluative moment with their teacher in charge.

This study aims to analyze the use of PR in the action-training process in the field of Health, Environment and Work Promotion and Surveillance, from the perspective of interdisciplinarity.

## **Method**

This is a qualitative study on the perception of students who participated in an action-training process developed in a Specialization Course in Health, Environment and Work Promotion and Surveillance (CEPVSAT).

For this article, we considered only the class of Pernambuco, held in the municipality of Caruaru, between November 2017 and December 2019. The meetings took place at the Paulo Freire Training Center, installed in the Normandy Settlement, of the Landless Rural Workers' Movement (MST).

The research took place between 2020 and 2021, and had as study population the students enrolled in the Class of Caruaru - PE, composed of health professionals from the National Network of Physicians and Popular Physicians (RMMP), as well as members of social



movements belonging to the Brazilian Semi-Arid Articulation (ASA Brazil), Movement of Workers and Workers Without Land (MST), Centro Sabiá, and others.

A self-applicable form, available *online*, containing *open questions*, constructed from *the perspective of* understanding the perception of graduates about the use of this pedagogical strategy during the course and the relationship with the teaching/learning process was used as data collection technique. The form was made available through FormSus to 43 (forty-three) students who graduated from CEPVSAT, and 41 (forty-one) answers were obtained. The access link to the questionnaire was disclosed through the WhatsApp group of the class, and by e-mail of the students who graduated.

The portfolios prepared by the students and made available digitally by them on the course platform were read.

The analysis of the PR was guided by the Collective Subject Discourse (DSC) method, which allows us to know the perception of a group of people on a given theme. The analytical system consists in the organization of the answers of the applied questionnaires, where the similarity of the answers of each question guides the creation of thematic categories for the formation of the synthesis of discourses. For its elaboration, the key expressions were identified, excerpts selected by the researcher that reveal the meaning of the discourse, forming the central ideas that are synthesis made by the researcher to create the thematic categories and form the DSC (LEFÈVRE; LEFÈVRE, 2014).

In the present study, 4 central ideas were identified: (1) experience of elaboration of the reflective portfolio during the course; (2) contributions of the reflective portfolio to the learning process; (3) contributions from the reflective portfolio to the evaluation process; and (4) Suggestions/criticisms regarding the reflective portfolio. Each of these resulted in specific thematic categories that guided the construction of DSCs (Chart 1).

**Table 1** – Central issues and thematic categories identified in the analysis of Portfolios

CENTRAL IDEAS	Thematic Categories			
	1	2	3	4
1- Experience of developing the reflective portfolio during the course	Complex and important methodological strategy	Important strategy in the learning process	It allows to demonstrate the experience of students	Innovative methodology in health training
2- Contributions of the reflective portfolio to the learning process	Assists in the reflection of the learning process	Allows the organization and gathering of ideas and learning	Provides self-assessment	x
3- Contributions from the reflective portfolio to the evaluation process	Contributes to the creative and reflective process of the student	Pedagogical strategy that integrates registration and study	Contributes to the teacher-student relationship in the evaluation process	x
4- Suggestions/criticisms regarding the reflective portfolio	Continuation with the applied methodology	Difficulty with applied methodology	Suggestions for applied methodology	x

Source: Prepared by the authors

The project was approved by the Ethics and Research Committee (CEP, CAAE:31982820.3.0000.5190).

## Results and discussion

PR have a free nature in their conception, creativity, language, organization and production in the construction of learning. In the course, there was no recommendation in the sense of shape, structure, medium or size. The student was encouraged to use his creativity and reflection to use the material produced in the activities of the course, bringing evidence in what he considers relevant to his learning process, and can be expressed in reflective texts, narrations, poems, stories, *cordéis*, phrases, schemes, figures, photos, videos, bricolage, podcast etc.

This instrument allows the development and evaluation of cognitive, and psychomotor abilities, since it focuses on the individual practice of the student related to the moments experienced by the Course in its learning trajectory, stimulates the process of conceptual enrichment, promotes reflection on the action, ensures mechanisms of conceptual and methodological deepening, incites the creativity and originality of the student and facilitates evaluation through a process made by the metacognition of student learning (VILLAS BOAS, 2005).

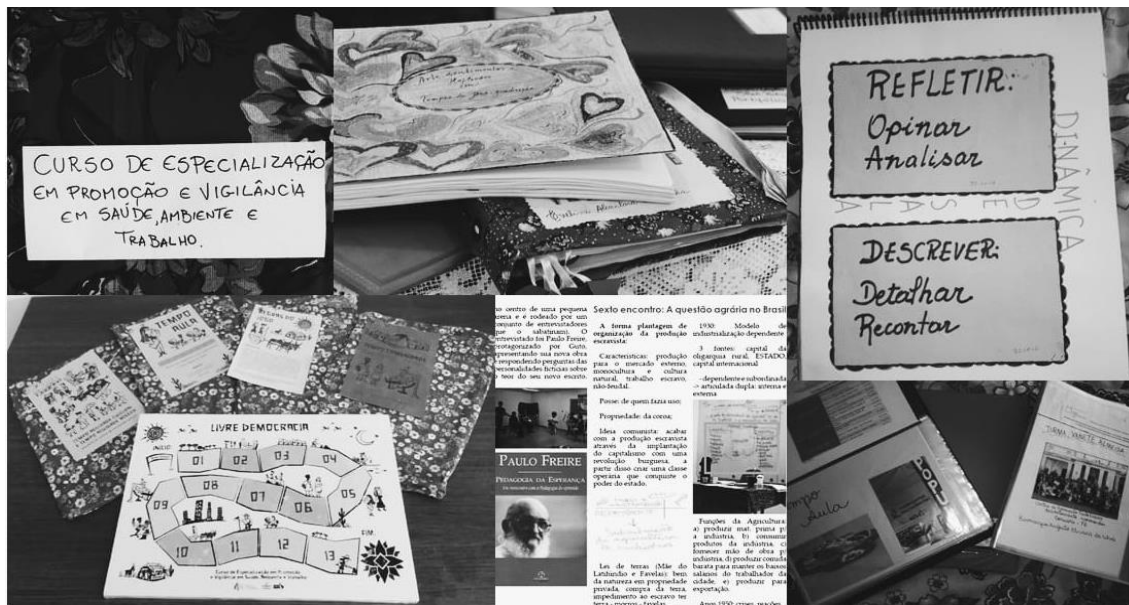


The construction of the portfolio should favor that the student can make his/her choices and make decisions, so that his organization should reflect the learning trajectory and achievements resulting from this process (VILLAS BOAS, 2005).

With freedom of creation, each student sought symbols, texts and images that could express their thoughts, senses, feelings, reflections and analyses. Its use allowed observing the construction of different knowledge and knowledge throughout the Course, articulating theoretical moments, reflections and experiences in the territory, and in the monitoring of the learning process of the students, being possible to observe the perception of these in the face of the applied methodology.

Figure 1 presents examples of Portfolios constructed by the students in the Specialization classes of Ceará and Pernambuco, in which they were able to express with creativity a critical reflection on the training process. This freedom of expression brought a plurality of formats in which these portfolios were built. Clockwise we have in the first two images' Portfolios produced by the classes of Ceará and the others were produced by the students of the Pernambuco Class.

Figure 1 – PR photos constructed by CEPVSA students



Source: Prepared by the authors

As for the central idea focused on the experience of PR elaboration during the Course, four (4) thematic categories that form their respective DSC were identified. The first category highlights PR as a complex and important methodological strategy; the second refers to PR as an important strategy in the learning process; the third points out that the PR allows to

demonstrate the experience of the students; and the fourth treats the PR as an innovative methodology in health education (Chart 2).

**Table 2** – Discourse of the Collective Subject of the students evidencing the experience of preparing the PR during the Course

Thematic Category	Collective Subject Discourse (DSC)
Complex and important methodological strategy	The PR was an arduous process of synthesis and reflection of the activities, something laborious and at the same time interesting. It is an amazing, innovative, challenging and necessary experience because it is very useful to revisit the themes worked during the Course. I found it very good despite having difficulties and taking time to understand the real role and not having practice of writing according to the standards, it was excellent. It is something that requires effort and dedication; attention to everything that occurred during the meetings, was becoming something that funnels the knowledge offered, offering the power of critical reflection. There has to be an organization to elaborate the PR, I was not very organized, I failed to devote myself to writing and creativity. It caught my attention a lot to try to change the practice. At first it was not very simple; but in the process I was able to learn a lot and became more organized. It makes it harder when left to do at the end. (Students: 1, 3, 4, 8, 18, 20, 30, 38, 40).
Important strategy in the learning process	I found it important, interesting and exciting to elaborate, I was able to develop my ability to externalize my opinion about the progress of the course; in a reflexive way always trying to articulate a way out of dilemmas. It is the opportunity to express their knowledge in a creative and playful way, contributes and values affective aspects of the learning process, as well as memory, ambiance and personal analysis. An enriching experience, from the point of view of understanding learning differently; as an alternative to formal education. It is enriching and nostalgic, both for learning and for the sentimental part, it was a way for each student to show their creativity mixed with learning, in a didactic and objective way. I loved this moment of art and creativity awakened in me a beautiful characteristic of inventing and being creative. As a great study motivator, I brought a greater need for the sensitivity that involved my learning. It is an excellent methodology to follow the student's development, a way to allow the student to express knowledge autonomously and creatively, a way to reflect everything that has been learned in books, classes and discussions in the classroom. It was a very innovative and pleasurable experience, providing the review of the study and meetings through other languages and forms of communication, in a unique and essential way, to better understand the whole process at the end of the Course. In the course of the assembly, we improve and improve, thus becoming a rich tool, because it allows a rescue of the moments experienced and the learning acquired during the meetings. I brought a new experience for me in the field of learning, contributing so that I could follow my teaching-learning process, important and necessary for the training process. I found it interesting and thought provoking to record every moment, mainly for the freedom we were given in building it freely. You've exceeded all expectations. (Students: 2, 5, 6, 7, 11, 12, 14, 16, 19, 21, 23, 24, 25, 26, 28, 32, 33, 34, 35, 36, 37, 41, 42).
It allows to demonstrate the experience of students	The construction of the PR was very intense and important, we can record each event in a different way from our vision and our learning. It has greatly enriched our process and keeps memories, as it is a way to rescue the content and experiences over time. I thought it was amazing; it was a possibility of free expression; a way to register the course from my singularities. It is indeed an interesting experience, a good challenge, because it allowed the memory of the process, reflections on the development of our intellectual trajectory and our collective construction. There have been many learnings

	and records of a walk full of reflections important to my life. My PR contains in addition to letters and photos contain feelings. (Students: 9, 10, 13, 27, 29).
Innovative methodology in health training	I never did a PR, its construction made me have more knowledge, I had to read and review all classes. It was a unique experience, very different in my academic life, since I was never asked to do this kind of work. Although I have never done anything like it, today I have a personal PR where I put all the moments of my daily routine, this goes beyond social networks. As I made the option to make a video, I really enjoyed the experience. I thought it was fantastic, although mine didn't get all that stuff, but I really enjoyed it. (Students: 15, 17, 22, 31, 39).

Source: Prepared by the authors

In the answers of the students, for the most part, there is always a duality in which the difficulty in the elaboration of the PR during the Course is cited. The process is reported as being arduous, laborious and complex; on the other hand, it requires care, sensitivity, bringing a positive experience, especially for those who have never elaborated instruments such as PR. For students it has become a place to revisit and synthesize the knowledge acquired throughout the Course, in its different pedagogical moments – modules, readings, fieldwork, etc. Because it is something complex, it brings significance in its construction result, enabling the rethinking of health practices.

The PR is an innovative pedagogical methodology in health education, both from the individual and collective point of view, because it does not only aim at student learning, but also all subjects who participate in action training – teachers, professionals, community and educational institutions – considering the different practices that can be reported in the PR. In it is the entire path that leads to the development of knowledge itself/learning, evidencing conceptions, experiences, uncertainties, critical analyses about themes/practices, adversities and the feelings of the students (COTTA *et al.*, 2012; COTTA; MARIE; COSTA, 2011; POSSOLLI; GUBERT, 2015; SÁ-CHAVES, 2009).

The PR enables the construction of learning, with critical reflection and rethinking about health practices.

According to Sá-Chaves (2009), PR is a facilitating means of learning for the student and the teacher. A kind of laboratory where the student builds meanings through the experience he accumulates, becoming a synthesis of the learning path.

The students reported that the tool brought strangeness by not having a previous model, but that throughout its elaboration allowed to trigger affective, creative, playful, sentimental aspects of learning, making them seek new and old readings and review themes of the modules in a motivating process that resulted in critical reflections, both of the contents and the processes experienced by them in the practical activities throughout the Course. Freire (2019a) says that,

in this way, studying becomes a creative adventure, a provocative challenge that, by itself, becomes much more attractive and richer than just a repetition of a knowledge "transferred".

In this pedagogical itinerary, the student becomes a critical and epistemologically curious individual, autonomous from his learning that actively develops his understanding based on the problematization of the theme of study (CARDOSO *et al.*, 2015).

Therefore, the student not only learns by learning or to fit the reality that has been put to him, but mainly to intervene on it, modifying it and reinventing it. Thus, learning is to become the protagonist of your learning process, is to produce, and (re)produce, understand, create, (re)create, to be able to act/intervene and transform/change (FREIRE, 2019b).

The provocation is, precisely, to guide health education so that professionals can acquire this profile, which produce knowledge and direct their learning seeking autonomy, creativity, critical thinking, reflection and flexibility, in order to prepare them to relate in this globalized and very complicated era, with so many uncertainties, and with various facets, always requiring innovations in all areas of knowledge (MORIM, 2018).

Regarding the central idea related to the contributions of the PR to the learning process, 3 (three) thematic categories were evidenced that allowed the formation of their respective DSCs: in the first the PR is understood as a strategy that assists in the reflection of the learning process; the second category points to it as a strategy that allows the organization and categorization of ideas and learning; and in the third category, as a strategy that provides self-assessment (Table 3).

**Table 3** – Discourse of the Collective Subject of the students evidencing the contributions from the reflective portfolio to the learning process

Thematic Category	Collective Subject Discourse
Strategy that assists in the reflection of the learning process	The construction of the PR contributed to the promotion of critical reflection of the learning processes, allowing the student to reflect on each module, and revisit all the moments experienced in class. He also contributed to the recording of the reflections made during the course. The exercise of writing what one thinks, what is felt in front of a content, contributes a lot to learning. It is an important experience because, in addition to allowing remember and systematize the contents, it also allows to rescue details and memories of each meeting. (Students: 1, 2, 3, 8, 9, 11, 12, 13, 14, 18, 19).
Strategy that allows the organization and gathering of ideas and learning	The construction of the PR enables the organization and meeting of learning and ideas, because with it, it is possible to register each acquired knowledge. It assists in the process of fixation / learning, because to build it, it is necessary to pass on the notes, texts and materials made available. It is a tool that allows you to take a look at experiments, as well as synthesize the content studied during the Course. Developing a PR awakened my creativity, it was where I could put everything together in a light way, but that had a connection between the topics dealt with. It was possible to add

	other elements that tell of the learning process and the experience of each one. (Students: 4, 20, 26, 27, 28, 29, 32, 33, 36, 38, 39, 40, 42).
Strategy that provides self-assessment	The PR contributed to facilitated understanding of learning the content taught in the Course, in the power of synthesis and in the development of writing skills, instigating our creativity. In it it was reported how I saw the conduct of the Course, with a critical look and always seeking to point out solutions. With it we can observe how we arrived in relation to the proposed knowledge, and how this knowledge expanded at the end of the process. The PR contributes to the process of human formation, because it requires attention and a new process of research, as well as, made us understand that the life and the walk outlined by us, are to be overcome, and on each page of this journey was strengthened by all the people who have been and who are registered in it. The PR allows us to revive and recall the Course. Often challenging, in its construction process, however, it was a great motivator for the study, there was an increase in my "baggage" of knowledge, because it allowed me to follow all the discussions held, sharpened my creativity and stimulated the autonomous development of previous knowledge with the acquired. It is a very useful tool for further analysis. (Students: 5, 6, 15, 16, 21, 22, 23, 24, 25, 31, 34, 35, 37, 41).

Source: Prepared by the authors

The students perceive the PR as a way to synthesize all content acquired throughout the Course, being the methodology, a way to contribute to the learning process of creativity, which provokes reflections and revisits what has been learned.

Cotta *et al.* (2012, 2013) affirm that the PR is thus revealed as a tool that provides creativity, criticism, analysis, the leading role of an active, dynamic, dialogical and revolutionary process, providing the necessary means for both monitoring and evaluation of work, through the skills and attitudes conceived. In this sense, the PR enables the presentation of events aiming to produce reflection on the part of the students in relation to their practice, ideas, readings and doubts and not only for the description of concepts and techniques.

The students claim that the free form of construction allows the freedom to explore the various contents, which some consider it a collection of works developed by them, which makes it possible to understand their own development. Enables the analysis, evaluation, self-assessment, execution and presentation of activities built in a given period, is the space where the student stores and presents the impressions of skills, attitudes and knowledge. It is a tool that reveals the meanings and meanings of the student, which encourages him to reflect, encouraging him to record his thoughts and opinions about subjects of interest, as well as difficulties on a given topic (ALVARENGA, 2001).

Bordenave and Pereira (2014) affirm that PR is a great resource to involve the student in their learning process, because it encourages reflection, leading them to discoveries of themselves in different situations, pondering positively for their individual, academic and professional growth. It is a tool that improves the reflection of practices, ensuring the production of knowledge, personal and professional progress of participants (students and teachers), being



a tool that facilitates the growth of the student, since its construction requires a lot of reading and reflection about what has been read, as well as positioning itself through its reflection to expand the search for answers (FERREIRA; BUENO, 2005).

The construction of PR, therefore, works as a resource to develop the teaching-learning process, with students' displacement by the 3 (three) specific domains pointed out by Bloom's Taxonomy of Educational Objectives: cognitive – related to learning and mastering a knowledge; affective – that concerns emotional and affective development and translates into behavior, attitude, responsibility, respect, emotion and values of the student; and psychomotor – which involves the association between physical and cognitive abilities (FERRAZ; BELHOT, 2010).

The student's displacement in this process is linked to the precepts of education as a generator of change, where today's practice or yesterday's practice can improve (FREIRE, 2013). This is because the student becomes a reflective, ethical and creative individual, prepared to critically reflect his/her training, especially when he/she goes to a more dynamic point of view, where education is done through the symbolic representations of this, when one notices the growth during the course (TANJI, 2008).

Regarding the central idea related to the contributions of the PR to the evaluation process of the students, 3 (three) thematic categories that guided the construction of their respective DSC were identified: the first points out that PR contributes to the student's creative and reflective process; the second highlights that PR is a pedagogical strategy that integrates registration and study; and the third evidence that PR contributes to the teacher-relationship student in the evaluation process (Chart 4).

**Table 4** – Discourse of the Collective Subject of the students evidencing the contributions from the reflective portfolio in the student evaluation process

Thematic Category	Collective Subject Discourse (DSC)
Contributes to the creative and reflective process of the student	The methodology of elaboration of the PR, created a greater interaction between the students, provoking the students to interact information, knowledge and concerns such as the elaboration process. While we are invited to reflect, our experience is meeting with other activities. It is also possible to creatively express learning during the Course and follow one's own growth through a more holistic look. Little expressed myself in room and wheels of conversations, the PR helped me how much this, I tried to pass in the best way what the Course was being for me of how much I was learning in relation to the disciplines. Thus, when I visited him, I could perceive the development of learning as time went by, and learn to register in ways other than writing. On the objectivity part, it probably made it less tiring for the evaluators, because each student used their creativity to assemble their PR, fleeing the pragmatic methodology of undergraduate courses. In addition, because it was mandatory, it was



	necessary to be attentive to the days of class and served as another material of accumulation of knowledge. (Students: 1, 4, 20, 22, 25, 39, 24).
PR is a pedagogical strategy that integrates registration and study	The PR allows recording the trajectory in a more complete way than just conventional evaluations, allowing to visualize the theoretical and practical progress from the activities of the Course. Because it is another instrument of registration and accumulation, it contributed to the recording of memories, participation, synthesis and reflections; precisely because we understand that we get involved throughout the process. It made us live the modules of the Course, in an attempt to apprehend the moments to record them. It contains my commitment, it shows me the whole trajectory of this walk, the friendships, the experiences and the themes lived in each meeting. It is also in him that are the challenges overcome, moreover, I tried to show a little of what I knew. It contributed to allow me to present the systematization of the studied contents, and to show how it was possible to learn them, in the aspect of understanding how the learning process takes place. Those who have had the opportunity to read and handle can understand a little of each moment lived and built throughout the specialization. We were able to review some subjects from other activities, research, and conversations with students, such as the exchange of PR experiences, was very interesting and a very different and new evaluation. It was possible to observe the student's involvement with the course, discussions and dedication. Recognizing the knowledge acquired after the course. (Students: 6, 16, 19, 21, 34, 2, 3, 9, 10, 13, 14, 17, 29, 41).
Contributes to the teacher-student relationship in the evaluation process	The PR provides an important self-assessment process, allowing to evaluate the development of my knowledge and how much I learned throughout the course. Contributed to the evaluation process through systematization, construction, elaboration and organization of thought, and ideas focused on the theme of each discipline. It contributed to make the whole evaluation process more humane by giving the evaluator the dimension of learning, limitations and achievements of learning. It made our teachers and coordination understand my commitment and what I understood from the Course, making it possible to visualize the entire trajectory. Through him I got a good score. I imagine that the teachers were able to access what was relevant and pertinent in the Course for each student, their creative processes and subjectivities. Thus, there was the possibility of the teachers evaluating the pedagogical structure I planned. The methodology collaborated in the evaluation and understanding of my learning, in addition, there was an opportunity to receive <i>feedback</i> for each text produced. (Students: 5, 26, 27, 35, 8, 11, 12, 15, 31, 33, 37, 38, 42).

Source: Prepared by the authors

The PR had a role of learning by doing. For most students it was the first elaboration experience and they wanted to know the way of their construction objectively. Many wanted an example model to be followed because it was a mandatory activity that contributed to the overall assessment and everyone wanted to be well evaluated. But during the course there were moments of guidance and follow-up in which the students brought their PR so that the teachers could contribute to the improvement until the completion of the Course and final delivery. It was a way of stimulating, making the evaluation process more humane. And for students, this evaluative form is also less tiring for teachers.

Several studies that analyze the use of PR in health training demonstrate its use in the teaching-learning evaluation process, often in a limited way. The portfolio is not only an evaluation instrument, it is an educational strategy that strengthens the teaching-learning

process and contributes to the evaluation process in a procedural way, because throughout the Course the student can look and problematize the construction. Cordeiro e Silva (2019) state that the portfolio is a very important evaluation tool, where the information deposited in it allows the evaluator to analyze the continuous learning process (CANAVARRO; MARTINS; ROCHA, 2007).

Fuentes-Rojas (2017) says that it is a non-punctual but continuous evaluation tool that allows the student to define a strategy that involves action, reflection and evaluation. Allowing to trigger simultaneous skills focused on reflection and self-assessment both in the individual and group form, sharing experiences, knowledge, successes and successes, which will allow the development of the emancipation process.

Veiga Simão (2005) adds that the concern for a more realistic assessment of students' understanding led to a new space of analysis in the classroom: the portfolio, understood as a union of students' tasks that highlight both the learning process and the repercussions achieved, in which it is evaluated simultaneously by the teacher and the student.

The Brazilian context has an inefficient evaluative culture, which favors some aspects. However, the evaluation should be more comprehensive and need to prioritize competencies such as: cognitive, psychomotor and affective ability, considering the production of an educational impact, with thoughts about the practice, presenting the weaknesses and potentialities, outline with a path to be traveled (STELET *et al.*, 2016).

However, PR cannot be understood only as a performance assessment tool, as it is also a strategy that aims to stimulate skills-centered learning – learning by doing (COSTA *et al.*, 2014; SANTOS *et al.*, 2021).

Overcoming the mere external formative evaluative 'function' because it allows, in this process, understanding of error as opportunity, self-assessment, and transformation through learning by doing, all this in a more critical, reflective and above all behavioral way (SANTOS *et al.*, 2021).

The PR demonstrates several possibilities, having as main learning mechanism its development by the student himself and/or student groups. It is recognized as a pedagogical device that favors formative evaluation, because it considers the integrality of the teaching-learning process, obeying the limits, individualities and singularities of the subjects, the bond between teacher-student, providing conversation and exchanges, reflective and meaningful knowledge in various contexts. Likewise, it surpasses traditional assessments, which are concerned only with cognitive (BLANCO, 2009; COTTA *et al.*, 2012).

Cotta (2012) also states that PR contributes to teaching and formative evaluation, as it provides the student with the accompaniment, construction and understanding of what has been learned, and gives the teacher the opportunity to interfere through the needs presented by the student. This is because the PR allows the student several possibilities that facilitate the process of reflection, analysis of situations and difficulties, self-assessment and supervision, mastery and conducting knowledge and individual and collective evolution, including several cognitive, interactive and emotional aspects (SILVA; SÁ-CHAVES, 2008).

The central idea regarding the students' suggestions and criticisms in relation to the portfolio allowed the identification of 3 (three) thematic categories that guided the construction of their DSCs: the first category points to aspects of continuation with the applied methodology; the second mentions difficulties with the applied methodology; and the third points out suggestions for the applied methodology (Chart 5).

**Table 5** – Discourse of the Collective Subject of the students evidencing suggestions/criticisms in relation to PR

Thematic Category	Collective Subject Discourse
Continuation with the applied methodology	The PR collaborates with the learning process from the search for new ideas and the memory process of the Course, and that continues in future classes, because it allowed to immerse headlong into social criticism, and strengthens the experiences during the Course. Being efficient, adequate, alternative, dynamic and playful. Staying good guidance and adding examples of synthesis and references, and home activities. (Students: 5, 6, 11, 15, 17, 19, 20, 21, 22, 29, 30, 33).
Difficulty with applied methodology	The PR is a very relevant material, but from the other demands of the Course, it made it difficult to elaborate it. (Student: 9)
Suggestions for applied methodology	From the experience with the PR, it is observed the need to make clear its association with the pedagogical proposal, to start its construction from the beginning of the Course, in a dynamic, relaxed way, with a clear explanation of its objectives, which is functional and simplified, built in collective or trio. That can be made available an example model of PR, having a follow-up of the pedagogical team with periodic evaluations, to be presented at the end of the Course. (Students: 1, 2, 4, 8, 10, 12, 16, 25, 26, 27, 28, 31, 32, 34, 36, 40, 41, 42).

Source: Prepared by the authors

The answers show that the use of PR was very constructive, even though some students presented difficulties in understanding its purpose, as shown by the suggestion where the availability of a model could overcome this difficulty. This difficulty is quite understandable, given the hegemony of courses in the field of health that do not adopt reflexive devices and practices.

Understanding the PR as a device that facilitates the reconstruction and elaboration, by each student, of the teaching-learning process, its development provides the opportunity to analyze the evolution of students in their understanding of what is being lived, in the same way that it provides the inclusion of necessary changes immediately, as well as helping teachers to consider the activity not only on a one-off basis (such as proof and testing), but in the teaching scenario as a complex area, which relies on associated learning elements (WINOGRAD; PARIS; BRIDGET, 1991).

Being a pedagogical device, the PR does not work with a closed structure, organized, where the elements that structure it are provided in advance, but assumes the open perspective, a path to the unpredictable and creation: the event and the experience (STELET *et al.*, 2016). This open perspective, without a guiding model, generated a little insecurity in the students, but in the elaboration process they were able to understand and make their reflections, rescuing their notes, reflections, readings and moments of sharing with their colleagues and teachers.

It was observed that the PR was able to instigate narratives that motivate the student to be the responsible subject, providing the reflection of the specificities and particularities of the construction of each one (STELET *et al.*, 2016). However, in order for the PR to achieve its objective, it is very important that the student understands what was proposed, so that he can participate in the learning process as an active subject in the construction of his own knowledge and not only a simple spectator and repeater of information and theories expressed to them (FREIRE, 2019b).

For the student to be an active subject in the learning process, it is necessary to understand education as a transformation of practices and knowledge, for this to occur it is essential that there is a commitment between the teacher and his student. Freire (2019b) states that to be prepared for this commitment it is necessary to be able to act and reflect.

It is essential for the collective health professional to have in his education pedagogical devices that allow an expansion and diversification of his/her gaze, to improve decision-making, choices and actions, as well as the administration of doubts and conflicts, instigating a more conscious thinking.

## Final considerations

The use of PR as a pedagogical instrument of CEPVSAT allowed interdisciplinary training, since students were able to dialogue about the different areas of knowledge based on their training and experience. The experience of portfolio construction demonstrates its importance as an active and reflective pedagogical process of the relationship between theory and practice, which leads to the reflection of education in the emancipatory and transformative perspective of social reality.

This training process provided the monitoring of the student's displacement in the cognitive, affective and psychomotor domains, including other forms of interpretation of the teaching-learning process, allowing self-assessment and spaces for doubts and conflicts.

The evaluation process itself during training is transformed, while the organization and development of the portfolio, allows to improve and deepen the teacher-student relationship, self-assessment throughout the training course and the readjustment of training and pedagogical strategies.

The PR presents itself as a pedagogical device of learning and fundamental evaluation in several fields of formation, particularly in health education, whose complexity of phenomena require the construction of a critical-reflexive thinking, directed to a liberating health practice.

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