Articulating Methodology: A Potentiator Device on Permanent Health Education

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ABSTRACT[1]

Even prior to the SARS-CoV-2 pandemic, education presented some gaps in the didactic-pedagogical field. Due to the constant reinvention of didactic-pedagogical practices, it is of paramount importance to integrate active methodologies in educational spaces for improving the processes of action-reflection-action-reflection. We present an Articulating Methodology (AM), as a potentiator device, for intersectoral work between the health and education sectors. The goal of this paper is to systematize Articulating Methodology concepts with Permanent Health Education (PHE) principles. This is an exploratory study carried out in three steps: describing the authors' experiences; bibliographic research; and integrative review for a discussion about the contextualization of the active methodologies. We identified important elements that can be added to the AM using technology information. As conclusion, we highlight that it is essential the importance of the teacher's role in the educational process. Nonetheless, it is necessary to develop such a sensitive reason for a more humanized practice. The AM stands out in this process, through the creation of Proactive Agendas, as well as ethical and moral principles, which reinforce social participation, didactic-pedagogical development, and technological information use, allowing the grown up of the narratives that emerge from the participants' experiences/voices/listening.

Keywords: Active Methodology, Permanent Health Education, Educative Dimension, Health Dimension, Informatics.

1. INTRODUCTION

Education on the world stage, even before the pandemic caused by SARS-CoV-2, had been facing needs and challenges that had not been overcome throughout decades of effort. The pandemic event has increased those gaps, exposing the need for initiatives that foster projects and actions with innovative strategies that enhance learning in such a manner that participants are immersed in an inclusive, free, and universal educational experience. Considering these projects and actions ought to contribute to the role of the individual in the context of political, social, economic, and cultural development of a sustainable society.

According to Boff (2020) "COVID-19 is the consequence of humanity 's lack of education, it is a problem of education and from now on education cannot be the same" [1]. It is thus important to rethink the training of both health and education professionals, aligning actions to the promotion of individual and collective health, and encompassing the dimensions of intersectoriality, interculturality, subjectivity, as well as the internationalization of knowledge, through positive language and reflective articulation. These actions can promote a continuous and intense flow of deterritorialization and inventions, as a way of interacting with the principles of Permanent Health Education (PHE): Teaching, Management, Service and Social Participation [2]. Saviani (2010) corroborates this view by stating that educational work is the act of producing, directly and intentionally in each singular individual, the humanity produced historically and collectively by the human group [3].

In this sense, any learning space should be considered a space for health promotion, with a comprehensive view, for the systematization of knowledge and affections, rendering the education generated in these spaces, to be the very materialization of the meaning of life, deriving mainly from the lessons learned during the current pandemic. Thus, integrating active methodologies in educational spaces becomes imperative, since didactic-

pedagogical practices are constantly reinvented, in an action-reflection-action-reflection process.

In addition, we must consider new challenges posed by the pandemic. According to Moura-Vieira and Colleagues (2021), schooling will not be the same, even with the return of face-to-face classes [4]. The educational context has become even more complex, other challenges have been added to the existing ones, such as working conditions that have worsened a lot. According to these authors, "many teachers had to adapt to new technologies, to the distance from bodies caused by social isolation and by the use of protective equipment, such as the mask, which makes it difficult for students to teach, bond and learn". Teachers also had to "overcome their fears and difficulties in relation to the technologies and awe of being infected in the face-to-face classes, all in a situation of precarious work" [4].

This serves to reaffirm the need to integrate active methodologies in educational spaces, as way to contribute to overcoming fears and losses caused by COVID-19. In addition, it is essential to reaffirm the importance of the teacher's role as the protagonist of educational conduct as well as the need to develop a "sensitive reason" for a more humanized teaching practice. The processes of teacher training and of the training itself must be an ethical, aesthetic, and political commitment of governments and society, and must be guided by the inseparability of training, management, care, participation [5], interculturality, intersectoriality, inclusion, internationalization of knowledge and the school's educational political project [4].

In this paper, we present the Articulating Methodology (AM) as a potentiator device for the intersectoral work between Health and Education. Articulating Methodology allows, through a situational diagnosis, for the identification/mapping of personal labor skills, territorial screening, well as for the discovery of potentialities of health and education professionals around a phenomenon. In the research one meant to systematize the concepts of the AM with PHE principles and results of an integrative review and encourage the development of PHE mechanisms, incorporating innovative methodologies for the promotion of health and education professionals towards sustainable development, empowerment and motivation of target groups, and internationalization of knowledge.

2. METHOD

This paper is part of a Doctoral Dissertation of the main author, elaborated in the co-guardianship regime between the University of Valencia/Spain and the University of Brasilia/Brazil, still in progress. It is a qualitative, exploratory, and participatory study, in which the experiences of authors were part of the context investigated. According to Novóa (1988) "The formation inevitably is a work of reflection about the life pathway" [6]. The study was conducted in three steps, which were systematized to interact with the Permanent Health Education principles.

❖ Step I: Given that theory and practice complement each other in a process of action-reflection-action-reflection, some author's prior experiences were of paramount importance in building this paper. Moreover, prior experience was fundamental for the elaboration of the Articulating Methodology, which has its starting point in the concerns of Professor and Historian Moura Vieira, experiences in the educational environment being considered. Using such method, the author's personal and professional memories were rescued to allow for the rescuing of facts and events that converged towards the elaboration of the AM.

❖ Step II: A bibliographic research was conducted in dialogue with Permanent Health Education. As bibliographic research, we used the main works of some authors, who served as pillars for the structuring of the AM. The choice of these works aimed to contextualize the methods and instruments that structured the Articulating Methodology. Using the works of those authors rendered it possible to establish future assumptions and perspectives for the development of this methodology in accordance with Permanent Health Education principles. The addressed concepts had their theoretical foundation in the Circle of Culture [7], Problematization Methodology/Arch of Maguerez [8], Image Analysis [9], Birkenbihl Method [10, 11], and Brazilian Policy of Permanent Health Education [12].

❖ Step III: An integrative review was carried out for a detailed discussion about the contextualization of active methodologies and those methods used during the current pandemic. As a methodological strategy for integrative review conduction, we followed six stages as described in a previous study [13]. For the integrative review, two independent authors (SAH & MEMV) searched on databases: Virtual Health Library (VHL), and Science Direct, using the keywords: active methodology AND permanent health education AND COVID-19/SARS-CoV-2 in Portuguese/English. The articles included for analysis were selected based on the reading of the abstracts; only full texts in English and Portuguese published between January 2020 - February 2021 were analyzed. The exclusion criterion used meant articles of bibliographic and systematic reviews, as well those that did not meet the inclusion criteria, were not admitted for analysis.

It was possible to identify active methodologies, methods, and instruments used in didactic-pedagogical processes during the current pandemic of SARS-CoV-2 by means of integrative review [14]. The use of integrative review was not intended to exhaust the analyses about the active

methodologies existing in the educational universe. Rather, integrative review was a source of methods and instruments that might be added to Articulating Methodology and strengthen its concept of transversality, when we propose to investigate complex phenomena in the political, economic, social and health sciences. By taking these steps, we seek to contemplate the following research questions:

1) Which aspects of teaching practice favor motivation and pleasurable work?
2) What active methodologies are being used during the current pandemic?
3) What are the theoretical contributions of methods applied in AM that can favor training, management, attention, and participation?
4) Which potential aspects from Articulating Methodology to Permanent Health Education?

The research questions and results are parallelly systematized and discussed with Articulating Methodology concepts in the following 3 sections.

3. RESULTS AND DISCUSSION

Author's prior experiences
Since I started working as a teacher 20 years ago, I have never felt fully prepared to deal with the totality of social, cultural, political contexts that the act of educating is permeated by. Therefore, I began to observe and to reflect on the complaints of teachers regarding students' learning difficulties, and their relation to the educational methods adopted in educational environments. At that moment, I realized that students' conflicts, uncertainties, and concerns resembled some of mine.

Thus, I began to experiment with several different pedagogical methods and approaches, such as the Freirean Culture Circle, Problematization Methodology, among others, according to the stage and modality of teaching and to seek new understandings of the world to improve my pedagogical practice meaning to contribute to a most pleasurable and humanized working experience.

Carrying such concerns, such regard, such desires, affectations, and possibilities of inventing new ways of acting, I decided to take on some training and tutoring "Permanent Health Education on Movement" in 2014. From that experience, I came to believe that, via PHE, a co-managed construction and the reinvention of work is possible. I also began learning form Merhy and Ceccim (who investigate Permanent Health Education in Brazil).

Thus, I found myself fully involved with PHE, which I perceived as a kind of body-theory-action that I let take me back to the words of Grande Sertão Veredas by Brazilian author called Guimarães Rosa, for it captured the tone of my affectations. *"[...] Sertão is the size of the world. Sertão: it's inside us." "Is it dangerous to be alive or not?*

It's too dangerous. Because we don't know yet. Because learning-to-live is true life. The Sertão produces me, then swallows me, then spits me out of the hot mouth." [15]

The journey through Sertão, the Brazilian hinterland, is potentially never ending. It opens so many pathways and involves so many crossroads, that people are simply outlived by it. Sertão, as much as the formation of the human being, is as vast as life itself. As vast as Sertão is the importance of teachers going through educational/formative processes permanently, either through formal proposals of education, in daily work relationships, or through their insertion in the sociocultural world through inclusive and pleasurable methodologies. This has been our perspective all along.

In 2018, I met Image Analysis Methodology [9], then, I used it in a formative process involving teachers and having violence as a theme, by invitation of the author herself. As I was developing my doctorate, "my flying amphibian" was totally activated [15]. I began to experiment across other methods and methodologies throughout the workshop, applying Alves-Hopf dialogically, about the emergence of new variables, needs, potentialities and mapped affectations. By such movement, we idealize and structure the Articulating Methodology, emerging from the dimensions of health and education that have surfaced through the process as well as through our personal and professional experiences.

By this movement of experimentation, dynamic and reflective we developed the Articulating Methodology, which means to fill the gaps found during my teaching career, so much made of concerns and curiosities. This Methodology integrated by various methods based on scientific evidence. Such methods complement one another in cross-sectional dimensions not exhausted by conventional educational guidelines, as will be detailed below.

Articulating Methodology: contextualization and its potentialities in educational practice
The Articulating Methodology (AM) arose from the need to fill gaps found in the didactic-pedagogical praxis of the authors. From a perspective of exchanging knowledge and experiences between education and health, AM was constructed by the combination of other methodologies and methods based on scientific evidence. Conceived by Edna Moura and Alves-Hopf in 2018, AM is a set of qualitative methods articulated and structured to support dimensions of health and education. Dimensions that encompass neurocognitive, emotional/affective, political, economic, social, and environmental aspects.

AM emphasizes the realities of individuals in terms of their origins and *raison d'être*, through dialectical approaches, exchange of experiences, knowledge, and affections, providing a personal, and professional mapping towards the limits between knowledge and emotions,

allowing for the construction of a new work experience connected to local reality and to the creation of propositions based on the needs and potentialities of the phenomenon being studied.

The training process provided by AM is transversal by some principles and concepts, such as i) Amority - by the conception of the expansion of dialogue in care relationships and educational action by the incorporation of emotional exchanges and sensitivity, allowing affection to become a structuring element of the search for health, ii) Interculturality - for valuing diversity, intercultural communication, and otherness, iii) Humanization - as a principle of comprehensive health care and the organization of healthy and welcoming workspaces, making clear the importance of the inseparable bond that unites care and management, iv) Internationalization of knowledge/exchange of knowledge - by the interconnection between scientific and popular knowledge in dialogue with involved and the reality of the territory, v) Intersectoriality - by the articulated planning of health and education policies. As a starting point, the Articulating Methodology was based on some scientific methodologies and methods, such as:

Paulo Freire Culture Circle [7] - Dialogical strategy that generates a critical movement of people, knowledge, and reflection for socio-educational transformation. In a learning format in which a moderator organizes herself with participants. This dialogical strategy considers important principles of Paulo Freire's pedagogy, such as student and educator, who are considered distinct subjects, building their views in a respectful and transversal dialogue with different disciplines connected to the local reality.

Problematization Methodology [8] - Through the Methodology of Problematization and the Arc of Charles Maguerez, we aim to provide the development of skills and the systematization of participants' experiences and knowledge, from the perspective of human rationalities and problem-solving taking the form of reflection-action-reflection-action.

Image Analysis [9] - Using images and maps, it is possible to map/identify potentialities and vulnerabilities in the context to be investigated. The Image allows for the rescue of memories and facts that help us a better understanding of a certain phenomenon from the participant's point of view, enabling the construction of theories and problem resolutions plausible to the local reality.

Vera F. Birkenbihl Method [10, 11] - This Method enhances learning processes, considering some aspects of neurocognition and neuroscience, such as: creating situations of memory retrieval in the conscious and subconscious; stimulating, through visualization and association techniques, the construction and transfer of knowledge among the subjects involved; promoting

relationships of affectivity, human development, and social transformation.

The organizational structure of AM is divided into systematic and complementary based on the building of an Action Service Project (Proactive Agenda), which according to the authors' conception is considered the reinvention and organization of pedagogical practices in action. It is possible to apply this methodology both in face-to-face and virtual formats. The following moments can be summed up:

Moment 01 - Situational Diagnosis: Mapping of personal, professional, and affective experiences, experienced by the subjects involved. Identification of empowering and vulnerable aspects, as well as political, economic, social, and environmental determinants.

Moment 02 - Pleasurable Learning Processes: Application of Association and Visualization Techniques that promote a dynamic and interactive dialogue, considering the discussion and reflection on the empowering or vulnerability aspects or determinants, mapped in the situational diagnosis.

Moment 03 - Promotion of Self-Care: Collective, artistic, and cultural experiences, based on the participants' stories and knowledge. Dissemination of healthy practices with the use of Complementary Integrative Practices in Health for promoting healthcare.

Moment 04 - Construction of a Proactive Agenda: Invitation to the actors to reflect on themselves, about the other and on the relationships, they establish in their personal and work lives, intending to solve problems based on learning, in a harmonic movement between theory and practice (praxis).

In 2019, Articulating Methodology was applied in a workshop format to immigrant women living in Valencia/Spain, promoted by the Asociación Por Ti Mujeres, with very positive results. The activities aimed to promote a space for dialogue and exchange of experiences that would allow immigrant women to know their abilities, cooperative, creative, and participatory skills, stimulating the capacity of creation and empowerment of these women, as can be seen in one of the reports: "I leave quiet, more energized, I felt that I needed a space like this, to vent, express everything that sometimes I cannot or do not have with whom to share with (Valencia/Spain, 2019)".

Positive aspects were also observed during the workshop "Oficina de Formação e Cultura Digital" in 2018 Brasilia/Brazil. "I am grateful for the opportunity, and I am more critical to my personal growth and willing to seek to fulfill myself more professionally because fear and error still hold me back. I am enthusiastic (Brasilia/Brazil, 2018)".

The main instruments AM uses are cultural circle; open and closed questionnaires; mind maps; photographs, ABC list, poetry, music, Arco de Maguerez, among others. These instruments allow not only for the acquisition of information on participants but also the evaluation of the methodology itself, and methods used, because the participants evaluate the actions when they arrive, during the activities and when they leave, as can be seen in the above report.

Integrative review
The search scheme and the results of the integrative review are presented in the **Figure 1 and 2**. Of the total of 66 articles found, thirteen were selected to compose our analysis.
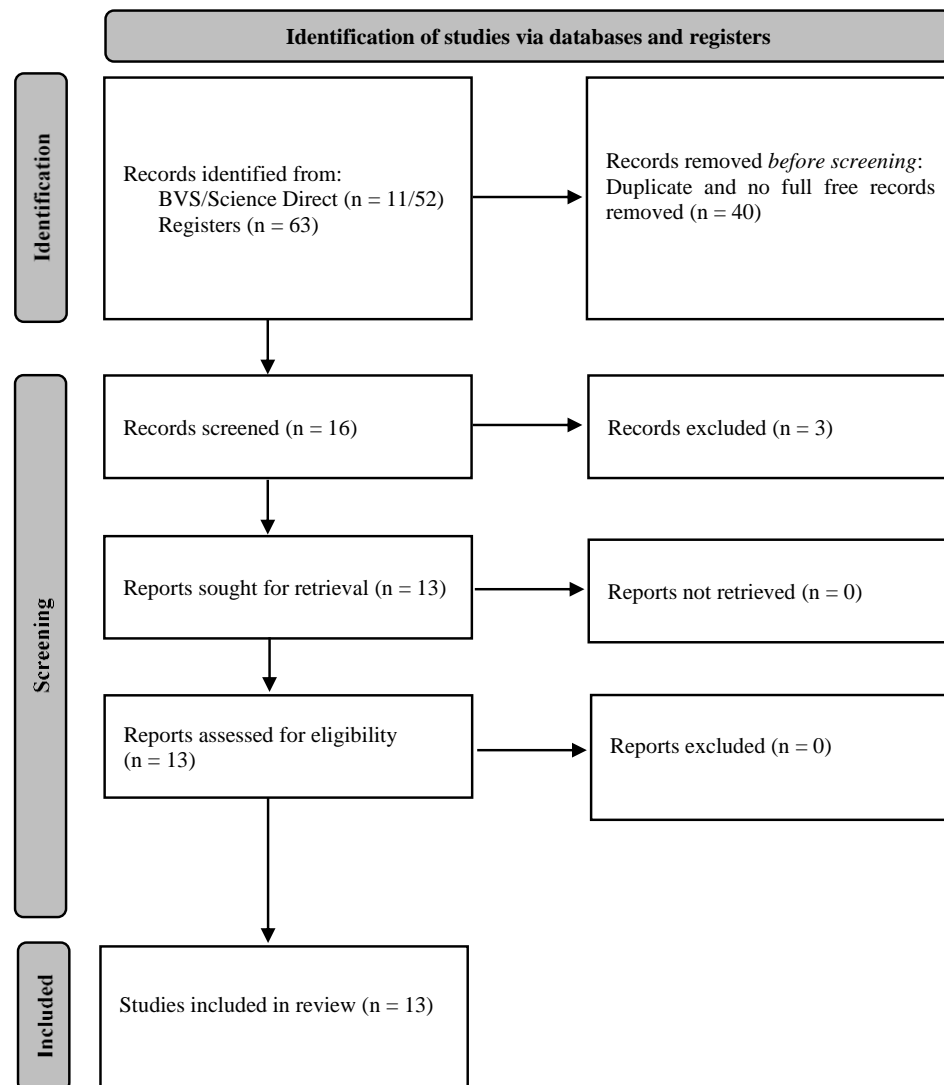

Figure 1: Representation of the selection process of the Articulating Methodology paper using Prisma 2020 Flow Diagram. BVS= Biblioteca Virtual de Saúde.

The authors presented various methodologies used to promote didactic-pedagogical actions in different fields, such as health [17, 18, 19, 20, 21, 24, 25], education [22, 23, 26, 27], and economy [28]. Most of the methodologies and methods used were based on active-participatory methodologies that employ information technology, an essential device in the context of social isolation. In some studies, it was possible to observe innovative and differentiated methodologies such as Participatory virtual teaching [23], Animated infographic based on concepts and assumptions of PHE [17], Cooperative Learning [19], Virtual Group Discussion (sVGD) [24], Learning by videos on YouTube [21], Phase-study plan cycles (PDSA) [25], Gatified active learning teaching [26], Active and virtual learning [27], AURA (Active Usage of Resilience Assets) [28].

The studies showed that these methodologies and methods presented important results that strongly consolidate the use of active methodologies to motivate the active participation of the target population [24], facilitating collaborative learning processes [17, 19], promoting

interaction and listening [18], participant satisfaction [25], and the use of virtual tools [21, 22, 26, 27].

Given this review, we were able to verify important elements that can be added to Articulating Methodology, such as the use of virtual devices and activity planning schemes, using information technologies. Thus, these technologies can be used during the development of activities in Articulating Methodology, further strengthening its operational structure, since AM provides a movement of action in service, in which education and health professionals acquire emotional skills to become multipliers of healthy didactic-pedagogical practices and committed to the locality.

Articulating Methodology in connection with permanent health education

There is something to be learnt during the current pandemic crisis, we must take a closer look at education and health. It is necessary a plural and integral look, considering multiple dimensions for transforming of the educational space. In the perspective of plural and integral education, it is necessary to place the educator's work at the center of theoretical, political, and methodological debates and reflections. To that end, it is imperative that teachers training processes do encompass the context of human development and the comprehensiveness of the subject, from the perspective of Paulo Freire (1996) [7].

Autor/Year	Objective	Methodology
Arruda & Siqueira 2021	Present an educational and sustainable practice adopted in times of Covid 19, by students and professor of the Accounting course.	Participatory Virtual Teaching with Information and Communication Technologies (ICT).
Bezerra et. al. 2020	Report the experience of students of health courses in the development of a case and its application in the form of a Problem-Based Learning	Problem-Based Learning
Dorneles et. al. 2020	Develop an animated infographic on the concept of Permanent Health Education, according to the National Policy, and its main differences compared to both continuing education and health education.	Animated infographic on Permanent Health Education
Fernandes et. al. 2020	Plan, develop, implement and evaluate a management specialization course in oncology using blended learning.	Combined learning methodology
Ivanov 2021	Present a chart that consolidates different angles of efficient resilience and turns to the use of resilience capacities for the creation of Value.	AURA (Active Usage of Resilience Assets) Framework
Kaur et. al. 2021	Innovate the way of conducting the discussion in virtual group (sVGD) and evaluate the perception of graduate students about its effectiveness compared to conventional VGD and virtual GD.	Virtual Group Discussion (sVGD)
Luu et. al. 2020	Analyze the quality of videos on YouTube as an educational tool in learning how to perform a neck dissection, one of the key indicator cases for trainees in otolaryngology	Videos YouTube Learning
Mojdenbakhsh et. al. 2021	Convert at least 50% of all outpatient clinical meetings to telemedicine within one week of the initial intervention. Obtain feedback from patients about this new type of encounter and determine the potential interpersonal impact on patient care.	Using action-study plan (PDSA) cycles, the initial intervention was agreed at a meeting of physicians GynOnc.
Murillo-Zamorano et. al. 2021	Present a successful classroom proposal in higher education to better understand its influence in terms of knowledge, skills, and engagement	Gamification and active learning (experimental group) and a non-gamified active learning teaching condition (control group)
Ripoll et. al. 2021	Share the experience of adapting the Biochemical Engineering course, part of the Biotechnology program of the Francisco de Vitoria University (Madrid, Spain), to remote learning.	Cooperative Learning
Sales et. al. 2021	Through the "Mental Box" promote the activities of teaching and university extension in the period of the pandemic incited by COVID-19	Information and Knowledge Technologies (TICs) and active methodologies.
Sanchez et. al. 2021	Introduce a postgraduate course in Deep-Sea Exploration as a basis for active and virtual learning	Deep-Sea Exploration with a basis for active and virtual learning
Segovia & Gutiérrez 2020	Evaluate the effects on the body composition of schoolchildren in a game based on high intensity interval training program (GB-HIIT) taught during physical education.	TheSport Education Model: high intensity interval training (GB-HIIT) programme

Figure 2: Available Papers to Integrative Review Analysis

Human development is a process of expanding the range of personal options, so it is closely related to work. The positive relationship between human development and work is reciprocal. Health, Education and Development are interconnected, as there is no development process without due attention to health and knowledge. Likewise, the development of workers is not unrelated to updating their own work. Work and workers constitute an inseparable dyad [16].

In the education and health sectors, the processes require extensive communication, tuning and correspondence with social needs, comprehensiveness, inclusion, internationalization of knowledge and political-pedagogical projects.

In addition, in the context of education professionals, given the scenario of socio-cultural vulnerability of their target audience, aggravated by COVID-19, it appears that the organizational structure of educational spaces, derived from current educational policies and their ways of functioning, do not offer sufficient possibilities for the reconstruction of dynamics, processes, participatory methodologies and forms of democratic management that are reaffirmed in practice.

In this context, the concept of Permanent Health Education can collaborate to the growth up of the education and health professionals. Permanent Health Education is defined as learning at work, in which learning, and teaching are incorporated into the daily life of organizations and the work process and proposes that the education processes of health workers are based on problematization practice itself.

Although the concept of permanent health education is a principle aimed at health workers, we understand that PHE aims to discuss the work and, from this work, seek to transform the institutional space into a space for problematization, reflection, dialogue and building consensus, exchanges, and co-production. It is based on the concept of critical education, meaningful learning, and the valorization of work as a source of knowledge, it can thus also be applied to education.

It is important to point out PHE is much more than a pedagogical or methodological concept, according to Ceccim & Feuerwerker (2004) [5] it has proposed a political process of disaccommodation and questioning that seeks to transform reality. These theoretical concepts make us envision a new scenario for education, as a response to the current needs imposed by the pandemic. For example, the need to equip teachers to develop the "sensitive reason", guided by the indissociability between training, management, care, and participation, in dialogue with new needs.

In this perspective, the Articulating Methodology can establish a relationship with the PHE principles. Moreover, AM offers this possibility, if we consider its methodological, didactic-pedagogical, and political aspects with the creation of Proactive Agendas that reinforce the participation and educational, political, and social transformation, where the tone of narratives and propositions are emerged from the experiences, voices and listening of the participants.

4. CONCLUSION

With the emergence of COVID-19, education on the world stage is no longer the same, it has become more complex. Furthermore, other challenges have been added to existing ones due to the working conditions that have worsened greatly. The affective aspects and the constitution of bonds become great concerns nowadays since the distancing of bodies caused by social isolation has hindered the learning of students and the constitution of a bond between teachers and students.

Fears and uncertainties compose the currently presented scenario of the educational context, which require measures, actions, and projects concerning the joint education of teachers and health professionals. We highlight the transversality of PHE principles and concepts, which take into consideration the integral health of those actors. In such a perspective, Articulating Methodology can enhance the actions in service, in which's accordance education and health professionals acquire emotional skills to become multipliers of healthy didactic-pedagogical practices committed to local reality.

In this scenario, findings of the integrative review were not exhaustive, on the contrary, further experimental research remains necessary about the active methodologies. However, we have been able to correlate the potential of Articulating Methodology with the findings of this integrative review.

In this review was observed that the active methodologies seek to move from the verticalized, whence the teachers teach them students, to the horizontalized model, whither involved actors build the knowledge in actively and participatively way. On the other hand, we have noted that methodologies employed need to include in their activities fundamental aspects defended by Articulating Methodology, such as amority, interculturality, humanization, internationalization of the knowledge, and intersectoriality of the health and education sectors for a comprehensive understanding of real needs and potentialities of the individuums, considering its multiple dimensions.

We highlight that both the role of the teacher and the need to develop a "sensitive reason" for a more humanized educational practice to be essential in the act of educating. In this sense, Articulating Methodology, as a didactic-

pedagogical device for Permanent Health Education, collaborate to education and health sectors, through the creation of Proactive Agendas aimed to reinforce the participation, health promotion, educational and social transformation, considering the Information Technology as an essential support to inclusion and access of the actors, in order to improve the tone of narratives and propositions, emerging from the experiences, voices, and listening of the participants.

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