# PRECEPTORS TRAINING: THE FUNDAMENTAL INVESTMENT IN THE TEACHING LEARNING PROCESS IN THE TRAINING OF HEALTH RESIDENTS

FORMAÇÃO DE PRECEPTORES: UM INVESTIMENTO FUNDAMENTAL PARA O PROCESSO ENSINO APRENDIZAGEM NA FORMAÇÃO DE RESIDENTES EM SAÚDE

Rafaela Sales Medeiros 1

José Gilberto Prates<sup>2</sup>

Karine Generoso Hohl <sup>3</sup>

Zulmira Maria Lobato 4

João Vitor Andrade 5

Manuscript received on: November 17, 2021.

**Approved on:** December 14, 2021. **Published:** December 28, 2021.

#### Abstract

**Objective:** to describe the experience of conducting a training course for preceptors in a mental health nursing residency program. **Method:** descriptive study of the experience report type carried out by health professionals specializing in mental health nursing. The present study describes the structuring, elaboration, implantation/adaptation and evaluation of a training course in preceptorship. It is noteworthy that the course lasted 120 hours, and was based on active methodologies (Design Thinking; Gamification; Mind Map; Panorama up and down; Portfolio; PBL; TBL), ensuring the protagonism of students involved in the training process. **Results:** the results were positive in the eyes of those involved, students and facilitators. The methodologies used were effective and well evaluated. And the objective of the course was achieved, with the described course being a good strategy for equipping professionals to act as preceptors. **Conclusion:** the good acceptance of the participants and the good evaluations that the course received are highlighted. Thus, this report, by describing the construction/implementation of a training course in preceptorship, based on active

<sup>&</sup>lt;sup>1</sup> Master's student in Health Sciences at the University of São Paulo. Residency in Nursing in Mental Health and Psychiatry at the University of São Paulo. Member of the Center for Studies and Research in Nursing in Addictions - Alcohol and other Drugs.

ORCID: https://orcid.org/0000-0002-9926-4350 E-mail: rafaela.medeiros@hc.fm.usp.br

<sup>&</sup>lt;sup>2</sup> Doctor in Health Sciences from the University of São Paulo. Professor at the University of São Paulo. Member of the Study Group on Alcohol and Other Drugs.

ORCID: https://orcid.org/0000-0003-1089-0628 E-mail: j.prates@hc.fm.usp.br

<sup>&</sup>lt;sup>3</sup> Residency in Nursing in Mental Health and Psychiatry at the University of São Paulo. Psychiatric Nurse at the Institute of Psychiatry, Hospital das Clínicas.

ORCID: https://orcid.org/0000-0001-8035-4260 E-mail: karine.hohl@hc.fm.usp.br

<sup>&</sup>lt;sup>4</sup> Master in Education from Bandeirante University of São Paulo. Professor at the University of São Paulo. Technical Director of the Nutrition and Dietetics Service of the Institute of Psychiatry, Hospital das Clínicas.

ORCID: https://orcid.org/0000-0003-0968-2047 E-mail: zulmira.lobato@hc.fm.usp.br

<sup>&</sup>lt;sup>5</sup> Resident in Nursing in Mental Health and Psychiatry at the University of São Paulo. Bachelor of Nursing from the Federal University of Viçosa.

ORCID: https://orcid.org/0000-0003-3729-501X E-mail: jvma100@gmail.com

methodologies, enhances the dissemination and knowledge on the subject, in addition to stimulating further research on the subject.

**Keywords:** Active methodologies; Preceptorship; Residency in health; Mental health.

#### Resumo

Objetivo: descrever a experiência de realização de um curso de formação de preceptores em um programa de residência em enfermagem em saúde mental. Método: estudo descritivo do tipo relato de experiência realizado por profissionais de saúde especialistas em enfermagem em saúde mental. O presente estudo, descreve a estruturação, elaboração, implantação/adaptação e avaliação de um curso de formação em preceptoria. Destaca-se que o curso teve 120 horas de duração, e foi baseado em metodologias ativas (Design Thinking; Gamificação; Mapa Mental; Panorama sobe e desce; Portfólio; PBL; TBL), garantindo o protagonismo dos alunos envolvidos no processo formativo. Resultados: os-resultados foram positivos sob o olhar dos envolvidos, alunos e facilitadores. As metodologias utilizadas foram efetivas e bem avaliadas. E o objetivo do curso foi alcançado, sendo o curo descrito, uma boa estratégia para instrumentalização de profissionais para atuarem como preceptores. Conclusão: demarca-se a boa aceitação dos participantes e as boas avaliações que o curso recebeu. Assim, o presente relato, ao descrever a construção/implementação de um curso de formação em preceptoria, com base em metodologias ativas, potencializa a divulgação e conhecimento sobre a temática, além de estimular novas pesquisas sobre a temática.

Palavras-chave: Metodologias ativas; Preceptoria; Residência em saúde; Saúde Mental.

### INTRODUCTION

Considered the gold standard in health education, postgraduate courses in the residency modality are supported by the teaching-service-community interaction<sup>1</sup>. Originated in 2005, the residences were configured in a national strategy for training professionals in the Unified Health System (UHS) and for the UHS<sup>2</sup>. Residencies are innovative proposals in health education, presenting a curricular-pedagogical structure based on the problematization of the reality of health services, aiming at solving simple and complex problems circumscribed in the human experience in the health-illness-disease process, leading to the stimulation/training of specialist, critical and reflective professionals<sup>3-5</sup>.

It is noteworthy that the total workload of the residence is 5.760 hours, consisting of theoretical activities (20% of the workload) and practical (80% of the workload)<sup>2</sup>. These activities are developed based on multidisciplinary team, under the guidance of tutors and preceptors, who are, respectively, professors of the residency program and/or health service professionals<sup>4</sup>. This makes the training process in the teaching-learning process in residences significant, providing scientific knowledge to residents, as well as transformations in themselves and in the world<sup>3,5</sup>.

In this perspective, the Residency Program in Nursing in Mental Health and Psychiatric at the University of São Paulo (RPNMH/USP) is demarcated, which annually receives eight residents. These, during the two years of residency, attend services that make up the Psychosocial Care Network (PCN) in the city of São Paulo<sup>6</sup>. It is pointed out that during the residency training period, residents are expected to develop/improve skills, competences and attitudes<sup>5</sup>.

In view of the above, the importance of preceptors in the training process in the residences is highlighted, as they are the ones who stay with the residences in the daily care practice<sup>7</sup>. It is also indicated that preceptors act as facilitators of the teaching-learning process in healthcare homes, sharing professional experiences and offering pedagogical support <sup>4,7</sup>. Ribeiro and Prado<sup>7</sup> explain that the preceptor is one of the protagonists in the teaching-learning process in residency programs, who need to have pedagogical knowledge to transform their practical experience into knowledge<sup>8-9</sup>.

It is noteworthy that in a brief search in the national scientific literature, on the formation of preceptors, only one course was found in the lato sensu postgraduate modality, offered by the Federal University of Rio Grande do Norte<sup>10</sup>. It is highlighted that, due to the lack of training/qualification, professionals who work as preceptors in health care homes end up not performing the duties expected of a preceptor<sup>7</sup>. It is pointed out that the scientific literature is scarce in relation to the training of preceptors for residencies, therefore, studies that deal with this subject are necessary. In this perspective, those responsible for the RPNMH/USP program, in the present study, describe the experience of conducting a training course for preceptors in a nursing residency program in mental health.

### **METHOD**

This is a descriptive study of the experience report type carried out by health professionals, specialists in mental health nursing. The present study describes the structuring, elaboration, implantation/adaptation and evaluation of a training course in preceptorship.

Due to the COVID-19 pandemic, which caused multiple damages in the most diverse sectors and areas<sup>11</sup>, the training course in preceptorship was carried out in the remote mode. Which is the teaching modality in which distance learning moments are interspersed, synchronous (online meetings in real time) and asynchronous (periods of non-simultaneous studies, where the student chooses their study period), enabling the participation of professionals, especially in the pandemic context<sup>11-12</sup>.

The implementation/delivery of the training course in preceptorship took place in five phases, as shown in Table 1.

**Table 1**: Phases of implementation of the training course in preceptorship.

Phases	Responsible	Development				
PHASE 1	Technical Coordinator And Pedagogical Coordinator Of The Residency Program	-   · · · · · · · · · · · · · · · · · ·				
PHASE 2	Pedagogical Coordinator Of The Residency Program	Search for free content storage and dissemination platforms that meet the needs of facilitators and course participants.				
PHASE 3	Technical Coordinator	Identification and invitation of the facilitator and administrative team of the course.				
PHASE 4	Course Facilitators Team	Planning the course schedule, dissemination methods registration and enrollment.				
PHASE 5	Course Administrative Team	Separating groups, creating thematic rooms for each facilitator, and sending reminders/activities to students.				

Font: data from this study, 2021.

The approval of the nursing board was immediate; the dissemination process began in three stages: i) Search nurses who act as preceptors within the Psychiatry Institute; ii) search for home tutors who work in the psychosocial care network; and iii) search for professionals who work as tutors in other specialization programs.

The course was divided into three modules and lasted six months, totaling 120 hours (30 synchronous hours, 30 asynchronous hours and 60 hours of reading and carrying out activities). It is noted that the synchronous meetings took place every 15 days (on Tuesdays from 7:30 pm to 10:00 pm), interspersed with asynchronous activities, available in classrooms on Google Classroom®, Table 2 explains the periods and theme of the modules of course.

**Table 2**: Period and theme of the modules of the training course in preceptorship.

Time course	Module	Classes		Theme					
		Sin.*	Ass.**						
December 2020	I	2	2	Contextualization of the unified health system					
		2	2						
January and February 2021	II	4	4	Specifics of health preceptorship					
March, April, May and June	Ш	8	8	Active methodologies and being a					
2021				preceptor					
June	Final meeting - Graduation and course evaluation								

Caption: \*Sin. - Synchronous; \*\*Asy. Asynchronous. Font: Data from this study, 2021

The course had five facilitators (and each of these facilitators was responsible for a group, namely: EDUCA+ (Education+), TMJ (Tamo Junto - We're together); Desbravadores (Pathfinders); Matriciadores (Matriceriators), e Somando Diferenças (Adding Differences). The facilitators were responsible for making contact with the professors who would teach the subjects, posting complementary activities to the dialogue of the synchronous classes on the platform, with the objective of fixing the contents<sup>5</sup>. It is noteworthy that the entire course was based on active methodologies, Table 3 explains the main active methodologies applied in the training course in preceptorship.

**Table 3**: Active methodologies applied in the training course in preceptorship.

Methodology	Definition	Time of use
Design Thinking	"Thinking like a designer" - provokes a systematized and non-linear way of thinking to solve problems in a collective and collaborative way, based on values of maximum empathy between the participants in the process <sup>13</sup> .	Module III of the course, in a class on "Theoretical foundation of active methodologies".
Gamification	Learning strategy that applies game elements and techniques in non-game contexts <sup>14</sup> .	Module III of the course, in a class on "Practical application of active methodologies".
Mental map	It starts with a central idea, and continues articulating connected ideas, in a tree structure (root and branches) or similar to a neuron. It organizes information by association, that is, the same way our brain works <sup>15</sup> .	Module III of the course, in a synthesis activity of the content taught in the course.
Panorama up and down	Its principle is the expression of participants about their motivations (Up) and lack of motivation (Down) in a given study, course, program or strategy, in a playful, interactive and creative way <sup>16</sup> .	Modules I, II and III of the course, in lectures, where it was necessary to understand the perceptions and opinions of the participants.
Portfolio	It represents a useful tool not only as a performance assessment tool, but also as a strategy to encourage competence-centered learning and reflection on daily practice <sup>17</sup> .	All course. It was used as a teaching, learning and assessment instrument.

Problem Based Learning (PBL)	"Problem-based learning" - the spectator is no longer just the receiver of the information transmitted by the instructor. And learning is active, students gain knowledge and skills while solving current problems through self-study <sup>18</sup> .	Modules I, II and III of the course, in case study activities, and construction of interventions. It is noteworthy that the activities related to PBL, should be based on the reality of work of course
		participants.
Team Based Learning (TBL)	"Team-based learning" - is characterized as a dynamic method of learning, as it presents both an individual and a group moment, motivating the participation of students and promoting interaction between them, through the sharing of information, thus reducing the disinterest in learning <sup>19</sup> .	Modules I, II and III of the course, in activities that should be developed in groups. It can be the conventional group of the course (five existing), or random groups, formed on the day of the class.

Source: Data from this study, 2021.

The evaluation of the training course in preceptorship was carried out by the course participants in a serial way (at each module) and terminal (at the end of the course). The evaluation consisted of giving bad, medium or good grades for the following criteria: a) Subject addressed; b) Methodology used; c) Mastery of the subject by the teacher; d) Action/aid of the facilitator; e) knowledge/learning retention. The instrument used to assess the participants consisted of a Likert-type scale (Figure 1), which is based on studies on the use of active methodologies<sup>5,20</sup>.



Font: Authors' personal collection, 2021.

In the instrument used for evaluation (Figure 1), as well as in the rest of the course, described in this study, it was not identified, being in line with Article 1 - sole paragraph, of item VII of Resolution 510/2016 of the Commission National Research Ethics Committee. And given that the described activity consisted of "activity carried out with the sole purpose of education, teaching or training without the purpose of scientific research", the need for submission to the Ethics and Research with Human Beings Committee was suspended <sup>21</sup>.

### **RESULTS AND DISCUSSION**

The importance of digital tools applied to the teaching-learning process in the pandemic moment is highlighted, especially for providing a change in the way in which individuals use technological devices, making them tools for learning, training/updating and work<sup>22</sup>. It is also pointed out that the pandemic context evidenced the use of digital information and communication technologies (ICTs) as a pillar for the development of activities in remote education, therefore, thinking about the implementation/use of these tools is an important step towards development of new courses and possibilities<sup>22</sup>, such as the one presented in this report.

In total, 40 professionals enrolled in the course (Table 4), these were separated into five groups, which at the beginning consisted of a facilitator and eight preceptors. After the first class, students who were going to stay in the course had to register (the course was completely free). Of those enrolled, 32 enrolled, and eight chose not to take the course.

**Table 4** - Professionals enrolled in the course, 2021.

Drefession	Number of students				
Profession	Masculine	Feminine			
Social assistance	0	1			
Nursing	3	29			
Drugstore	0	1			
Physiotherapy	0	1			
Nutrition	0	1			
Psychology	2	0			
Dentistry	1	1			
Total	6	34			

Font: Data from this study, 2021.

It is noted that some second-year residents participated in training in preceptorship, and this participation provided opportunities for an exchange of experiences and knowledge between residents, former residents and professionals working in preceptorship. Each of these groups, with different prior knowledge, ensured expansion/understanding of the attributions of "being a preceptor", going against the precepts of meaningful and participatory learning<sup>23</sup>.

It is noteworthy that there were other dropouts during the course, the distribution of professionals in the facilitating groups and permanence in the course is described in Table 5, below:

**Table 5**: Division of professionals into groups of facilitators and course progress.

Group	Registered Professionals	Enrolled Professionals	Dropouts during the course	Formed
Desbravadores (Pathfinders)	8	8	4	4
Matriciadores (Matricers)	8	5	2	3
Educa+ (Education+)	8	7	1	6
TMJ (We're together)	8	7	0	7
Somando Diferenças (Adding Differences)	8	5	0	5
Total	40	32	7	25

Font: Data from this study, 2021.

The reasons alleged by the professionals for dropping out of the course were varied, such as incompatibility of time, increased workload due to the absence of health colleagues (due to the pandemic moment), health problems of oneself or a close family member, being It is important to emphasize that all who gave up, reported regret in doing so. It is noteworthy that the reported finding is similar to what is explained in the literature, as there are many limited difficulties in being and training to be a preceptor<sup>2,4,7,10</sup>.

The students who acted as tutors pointed out issues such as misinformation about the political and pedagogical processes, internal organizational structures and the functioning of the residence, however, when they accessed the contents, both taught and on the platform, they felt they were part of the process. In this perspective, Lara and collaborators<sup>24</sup> explain that the educational actions developed together (student-teacher) offer dynamism and greater effectiveness to the process that becomes constructive. It ratifies that in the formative processes a contextualized education is necessary, which relates theory and practice. And in the residency, residents often do not have the necessary support for the development of skills, and this failure stems from the lack of training/knowledge of the preceptor's role<sup>12,23-24</sup>.

Regarding the active methodologies used in the course, the participants indicated that they enjoyed getting to know them and using them throughout the course, it is noted that there was approval and positive comments in relation to all the methodologies covered in the course (Design Thinking; Gamification; Mental Map; Panorama goes up and down; Portfolio; Problem PBL; TBL). But it is noted that there was greater preference and more comments about the Mind Map, Portfolio and TBL. The finding in the present study is corroborated by studies that specifically discuss these three methodologies, explaining their strengths and wide applicability<sup>15,17,19</sup>. Regarding the evaluations of the course participants, in relation to the course, they are summarized in Table 6.

Table 6 - Evaluation of the modules of the preceptorship course, 2021.

Variables	Bad		Average		Good	
Variables	Ν	%	Ν	%	Ν	%
Module I						
Subject Adressed	-	-	2	6,25	30	93,75
Methodology used	-	-	-	-	32	100
Mastery of the subject by the teacher	-	-	-	-	32	100
Action/assistance of the facilitator	-	-	1	3,12	31	96,87
Knowledge/Learning Retention	-	-	-	-	32	100
Module II						
Subject Adressed	-	-	1	3,12	31	96,87
Methodology used	-	-	-	-	32	100
Mastery of the subject by the teacher	-	-	-	-	32	100
Action/assistance of the facilitator	-	-	2	6,25	30	93,75
Knowledge/Learning Retention	-	-	1	3,12	31	96,87
Module III						
Subject Adressed	-	-	-	-	32	100
Methodology used	-	-	-	-	32	100
Mastery of the subject by the teacher	-	-	-	-	32	100
Action/assistance of the facilitator	-	-	-	-	32	100
Knowledge/Learning Retention	-	-	-	-		
Full course						
Subject Adressed	-	-	1	3,12	31	96,87
Methodology used		-	-	-	32	100
Mastery of the subject by the teacher		-	-	-	32	100
Action/assistance of the facilitator		-	-	-	32	100
Knowledge/Learning Retention			1	3,12	31	96,87

Source: Data from this study, 2021

Regarding the topic addressed, in modules I and II and in the full course, there were votes that made it clear that the subjects were medium. It is noteworthy that this finding serves to improve the course, and to rethink the topics covered in the course, especially so that in other achievements, the satisfaction of participants in this topic is 100% as good. It is also indicated that, as the first two modules were presented with quite bureaucratic and impractical subjects, the course participants may not have felt attracted.

One of the great differences of active methodologies is the dynamism and autonomy they guarantee, in addition to stimulating criticality and creativity, thus, the participants end up interacting<sup>5,20</sup>. Concomitantly, they assume the role of protagonist, provided by active methodologies, and end up having better performance and motivation<sup>17</sup>, such facts explain the good acceptance by participants of this type of methodology, with 100% of the votes with a good rating.

Regarding the domain of the subject by the professor, it is pointed out that the choice of professors was very cautious, and made previously, in order to select only qualified professionals and specialists in the topics they would teach. This feat guaranteed a good acceptance from the participants (100% of the votes - good), in addition to enhancing their learning, as, during the class, when questioning about the daily practice of tutoring, the teachers were able to respond and exemplify with real interventions and applicable.

One of the great differentials of the described course was the facilitator's role/help, the participants often felt grateful for the follow-up received and for the proximity to the facilitators. However, due to professional overload, accumulation of tasks, difficulty in adapting to ICTs and/or divergent ideas, one of the participants classified the facilitator's monitoring as medium, both in modules I and II. It is signaled that most of them were evaluated as "good", but thinking about improvements, the facilitators, after analyzing the evaluations, opened space for feedback from the course participants. From this perspective, it is worth emphasizing the importance of feedback in training processes<sup>17</sup>.

The retention of knowledge/learning obtained from the process was also very well evaluated. Thus, it was perceived to be effective to encourage courses and activities such as the one described in this study, since by being included as protagonists of the activity, participants were able to share experiences and absorb the content more easily. It is noteworthy that in this context, the dialogues become more applied and the contents addressed are aimed at the peasant experience of the public, facilitating the entire process<sup>20</sup>.

The progress of the activities went as planned; the deliveries of the works respected the stipulated deadlines for the most part. However, flexibility in the delivery of work, as well as periods of absence, or justified absences from the facilitators, were determining factors for a lower number of dropouts. With this practice, students and facilitators had the opportunity to experience agreements, build collaborative practices and decide based on the adversities that emerged over the course of the days<sup>23</sup>.

At the last meeting, the course coordinator prepared material through a video, summarizing the path taken, there was a commotion from everyone involved, especially in relation to the accomplished task. The strength of the training course in preceptorship is highlighted, since in addition to guaranteeing training consistent with the daily needs of preceptors, it enabled the creation of a two-way street, where facilitators/students learned and taught simultaneously. It is pointed out that this result is in line with what is explained in the literature <sup>24-26</sup>, emphasizing the effectiveness and importance of active methodologies.

#### CONCLUSION

This training favored reflection on practice, characterized as a process of permanent education for the facilitators, which ended up being extended beyond the educational initiative, in order to become part of the daily work in health.

This training, in the future, may trigger spaces for critical and reflective speeches by preceptors and health facilitators, representing an investment in the subjects involved in the processes, in their relationships and in the qualification of the activity of preceptorship in health residency. It is also pointed out that it is only with the training of preceptors that the challenges of residency in health can be overcome, and thus, stop interfering both in the organization and in the training for health work.

The good acceptance of the participants and the good evaluations that the course received in relation to the covered subject, methodologies used, mastery of the subject by the teacher, role/assistance of the facilitator and knowledge retention/learning stand out. Thus, the present report, to describe the construction/implementation of a training course in mentoring, based on active

methodologies, enhances the dissemination and knowledge of the subject, and stimulate new research on the subject.

#### **REFERENCES**

- 1. Haubrich PL, Silva CT, Kruse MH, Rocha CM. Intenções entre tensões: as residências multiprofissionais em saúde como lócus privilegiado da educação permanente em saúde. Saúde em Redes. 2015;1(1):47-56.
- 2. Antunes JM, Daher DV, Ferrari MF. Preceptoria como lócus de aprendizagem e de coprodução de conhecimento. Revista de Enfermagem UFPE on line. 2017;11(10):3741-8.
- 3. Silva CA, Dalbello-Araujo M. Programa de Residência Multiprofissional em Saúde: o que mostram as publicações. Saúde em Debate. 2020;43:1240-58.
- 4. Autonomo FR, Hortale VA, Santos GB, Botti SH. A Preceptoria na formação médica e multiprofissional com ênfase na atenção primária—Análise das Publicações Brasileiras. Revista Brasileira de Educação Médica. 2015;39:316-27.
- 5. Medeiros RS, José Gilberto JG, Hohl KG, Andrade JV. Aprendizagem significativa: júri simulado como proposta de abordagem de tratamentos em dependência química. Prát. Cuid. Rev. Saude Colet., 2021;2:e13158.
- 6. Universidade de São Paulo. Projeto Político Pedagógico: Programa de Enfermagem em Saúde Mental e Psiquiátrica da Faculdade de Medicina de São Paulo, 2020.
- 7. Ribeiro KR, PRADO ML. The educational practice of preceptors in healthcare residencies: a study on reflective practice. Revista gaucha de enfermagem. 2014;35:161-5.
- 8. Peixoto LS, Tavares CM, Queiroz PP. Research about the knowledge and teaching practice of the preceptor: a test pilot. Revista de Enfermagem UFPE on line, 2014:2038-46.
- 9. Campos GW. Saúde pública e saúde coletiva: campo e núcleo de saberes e práticas. Ciência & Saúde Coletiva. 2000;5:219-30.
- 10. Buregio RMVF. Elaboração de um plano de ação como estratégia integradora do ensino-serviço dentro do contexto da preceptoria. 2020. p. 13. Trabalho de conclusão de curso (especialização de preceptoria em saúde) Universidade Federal do Rio Grande do Norte, 2020.

- 11. Andrade JV, Moraes RC. O que o Coronavírus tem nos tirado? Anos potenciais de vida perdidos em Minas Gerais. Journal of Nursing and Health. 2020;10(4):e20104014.
- 12. Feferbaum M, Radomysler CN, Costa ECS. Ensino Participativo Online: fundamentos, métodos e ferramentas. São Paulo: CEPI FGV Direito SP, 2021.
- 13. Paiva ED, Zanchetta MS, Londoño C. Inovando no pensar e no agir científico: o método de Design Thinking para a enfermagem. Escola Anna Nery. 2020, 6;24.
- 14. Pereira DC, Takenami IO, Quintanilha LF. Gamificação como ferramenta de avaliação no aprendizado em disciplinas de ciências da saúde. Atas de Ciências da Saúde, 2020;10(4):121-30.
- 15. González JM, Gea EM, Ariza MD. El aprendizaje del mapa mental grupal mediante las TIC en Educación Superior. Educação & Sociedade. 2020;41.
- 16. Cotta RM et al. Panorama Sobe-Desce e Varal do SUS: o que motiva e o que desmotiva a utilização do Sistema Único de Saúde? Journal of Management & Primary Health Care. 2018, 19;9.
- 17. Cotta RM, Costa GD. Portfólio Reflexivo: Método de Ensino, Aprendizagem e Avaliação. Viçosa: Editoras UFV/ABRASCO, 2016.
- 18. Biello S, Yoss S, Walker ER, Druss B, Lang DL. Addressing Public Mental Health Challenges: A Mixed-Methods Evaluation of Problem-Based Learning. Pedagogy in Health Promotion. 2020:2373379920944963.
- 19. Burgess A, Kalman E, Haq I, Leaver A, Roberts C, Bleasel J. Interprofessional team-based learning (TBL): how do students engage?. BMC medical education. 2020;20(1):1-1.
- 20. Maia TC, Andrade JV, Silva IM, Júnior BR. Oficina crítico-reflexiva "Desenvolvimento e Saneamento Rural": extensão universitária por meio do Projeto Rondon. Revista Caminho Aberto, 2019;6(11).
- 21. Brasil. Conselho Nacional de Saúde, Ministério da Saúde. Resolução Nº 510, de 07 de abril de 2016.
- 22. Pretto NL, Riccio NCR. A formação continuada de professores universitários e as tecnologias digitais. Educar. 2010;26(37):153-169.
- 23. Agra G, Formiga NS, Oliveira PS, Costa MM, Fernandes MD, Nóbrega MM. Análise do conceito de Aprendizagem Significativa à luz da Teoria de Ausubel. Revista Brasileira de Enfermagem. 2019;72:248-55.



- 24. Lara EM, Lima VV, Mendes JD, Ribeiro EC, Padilha RD. O professor nas metodologias ativas e as nuances entre ensinar e aprender: desafios e possibilidades. Interface-Comunicação, Saúde, Educação. 2019; 10;23.
- 25. Rodrigues EM, Silva KK. Tecnologias educacionais digitais na formação de preceptores para residências multiprofissionais no SUS. Rev. Saúde Digital Tec. Educ., 2020;5(1):112-123.
- 26. Andrade JV, Araújo DC. O uso da terapia comunitária como estratégia para apoiar estudantes. Vivencias, 2019;15(28):165-70.