

# EVALUATION OF REACTIONS IN THE SCIENTIFIC KNOWLEDGE PRODUCTION WORKSHOP

AVALIAÇÃO DE REAÇÃO NA OFICINA DE PRODUÇÃO DO CONHECIMENTO CIENTÍFICO

EVALUACIÓN DE REACCIONES EN EL TALLER DE PRODUCCIÓN DE CONOCIMIENTO  
CIENTÍFICO

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## ABSTRACT

Describe the experience in the process of evaluating the effectiveness of the scientific knowledge production workshop in training the teams awarded in the 2nd Innovative Municipal Competition. Experience report on evaluating the reaction in knowledge production workshops carried out by the research team at the School of Public Health of Ceará from May to August 2023, together with the teams awarded in the 2nd edition of the Innovative Municipal Competition at Oficinas. There were 16 meetings and only 5 teams from the ten practices maintained regular participation in the workshops. Each team developed an article and responded to the evaluation form. Positive relationships were observed between reactions and impact of the workshops, with a rapprochement of ideas, terms, concepts related to the theme and scientific research. The experience was challenging, however, it contributed positively to the planning of actions, so that they can expand their potential for production and dissemination of practices through articles.

**Descriptors:** *Information dissemination; Health Evaluation; Diffusion of innovations.*

## RESUMO

Descrever a experiência no processo de avaliação da efetividade da oficina de produção do conhecimento científico na capacitação das equipes premiadas no 2º Concurso Município Inovador. Relato de experiência sobre avaliação da reação nas oficinas de produção do conhecimento realizadas pela equipe de pesquisa da Escola de Saúde Pública do Ceará de maio a agosto de 2023, junto às equipes premiadas na 2ª edição do Concurso Município Inovador na Oficinas. Foram 16 encontros e apenas 5 equipes das dez práticas mantiveram participação assídua nas oficinas. Cada equipe desenvolveu um artigo e responderam ao formulário de avaliação. Observou-se relações positivas entre reações e impacto das oficinas, com aproximação de ideias, termos, conceitos relacionados à temática e à investigação científica. A vivência foi desafiadora, porém, contribuiu positivamente no planejamento das ações, para que possam ampliar seu potencial de produção e disseminação das práticas por meio dos artigos.


**Descritores:** *Disseminação de Informação; Avaliação em Saúde; Difusão de inovações.*


## RESUMEN


Describir la experiencia en el proceso de evaluación de la efectividad del taller de producción de conocimiento científico en la formación de los equipos premiados en el 2º Concurso Municipal Innovador. Relato de experiencia sobre la evaluación de la reacción en los talleres de producción de conocimiento realizados por el equipo de investigación de la Escuela de Salud Pública de Ceará de mayo a agosto de 2023, junto con los equipos premiados en la 2ª edición del Concurso Municipal Innovador de Oficinas. Hubo 16 reuniones y sólo 5 equipos de las diez prácticas mantuvieron una participación regular en los talleres. Cada equipo desarrolló un artículo y respondió al formulario de evaluación. Se observaron relaciones positivas entre reacciones e impacto de los talleres, con acercamiento de ideas, términos, conceptos relacionados al tema y a la investigación científica. La experiencia fue desafiante, sin embargo, contribuyó positivamente a la planificación de acciones, para que puedan ampliar su potencial de producción y difusión de prácticas a través de artículos.


**Descritores:** *Diseminación de información; Evaluación de la Salud; Difusión de innovaciones.*


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## INTRODUCTION

The Better Care Program was launched in 2021 by the Secretariat of Intersectoral Public Policies of the Secretariat of Health of the State of Ceará (Sesa), more specifically by the Coordination of Intersectoral Policies (Copis). It is an initiative from Ceará that establishes technical cooperation between the State, municipalities and society, with a focus on improving the results and comprehensiveness of actions in the services of Health Care Networks within the scope of the health regions, with emphasis on Primary Health Care (PHC) and intersectoral articulation associated with quality indicators<sup>1</sup>.

It is emphasized that the Innovative Municipality Contest is an initiative present in the Better Care Program, and is in its second edition, with the aim of stimulating good practices of innovation in health, developed by the municipal public agents of the ABS together with intersectoral partnerships, encouraging strategies to improve health indicators and public services<sup>2</sup>.

The municipalities of Ceará registered practices aligned with the following themes: (a) Comprehensiveness of Maternal/Infant/Early Childhood Care; (b) Prevention of Adolescent Pregnancy; (c) Comprehensiveness of Care for Diabetes *Mellitus* (DM) and/or Systemic Arterial Hypertension (SAH); (d) Prevention of Cerebrovascular Accident (CVA); (e) Prevention of Acute Myocardial Infarction (AMI); and (f) Prevention of Traffic Accidents involving Motorcycles. The themes presented are part of the State's priority lines for tackling the problems that most cause illness and death in Ceará<sup>3</sup>.

In its 2nd edition, the contest provided the 10 winning practices with the assistance in article preparation workshops by the technical team of the Health Research Management (Gepes) of the School of Public Health of Ceará (ESP/CE) in partnership with Copis, for publication in the special edition of the *Cadernos ESP Journal*.

The proposal for the workshops presents itself as a space with critical potential to stimulate the publication and dissemination of innovative practices, in addition to assisting in the production of knowledge, a space for negotiating meanings, allowing the visibility of arguments, positions, but also constructions and contrast of versions and, therefore, privileged occasions for collective production. Workshops are medium and short-term activities capable of developing skills, knowledge and attitudes of health workers<sup>4</sup>.

To assess the results obtained through the workshops, the Reaction Evaluation was used, which consists of measuring the effectiveness of the strategy, with the objective of verifying the relationship between the content developed, the methods used, the usefulness and interest of the theme, the performance of the facilitator and the conditions of the activity<sup>5</sup>.

From this perspective, the workshops and the evaluation process are fundamental to disseminate scientific knowledge in relation to the health scenario, aiming to make information available, making it disseminated to the most varied audiences, thus expanding communication and dialogue with society. Thus, the objective is to describe the experience in the process of evaluating the effectiveness of the workshop for the production of scientific knowledge in the training of the teams awarded in the 2nd Innovative Municipality Contest of the Better Care Ceará Program.

## METHODS

This is an experience report, which seeks to present the evaluation carried out with the teams awarded in the 2nd edition of the Innovative Municipality Contest of the Better Care Program regarding the effectiveness of the Knowledge Production Workshop taught.

The Workshop classes took place from May to August 2023, with a weekly meeting synchronously through an *online* meeting room, previously created in *google meet*, accounting for a total of 35 hours/class. In all, there were 16 synchronous weekly meetings, which were structured thinking about the definition of what a scientific article is and the parts that compose it, namely: object of study/objective, justification/relevance, keywords, methods, introduction, results, discussion, limitations and final

considerations. In addition, the rules and the flow of submission of articles in the journal *Cadernos ESP* and a closing workshop with the application of Reaction Evaluation and closure were presented.

It is also emphasized that in each phase presented, the time of the next class was reserved for discussion of what was previously taught and presentation, with possible suggestions, of what was built by the participants regarding the subject addressed. A few moments of asynchronous classes were also reserved for the study and construction of the article by the teams.

The sample expected to participate in the classes was 10 people, considering the participation of at least one representative of each team, with no impediment to the participation of more representatives. The 10 teams that presented the best works were invited to participate in the workshops, corresponding to the winning practices of the last edition of the contest of the municipalities: Jijoca de Jericoacoara, Solonópolis, Sobral, Jaguaratama, Tabuleiro do Norte, Pereiro, Madalena, Mulungu, Acaraú and Morada Nova. However, it should be noted that we only obtained participation from 5 to 8 municipalities, with only 5 completing all activities, from the response of the Reaction Evaluation to the delivery of the final product, that is, the submission of the scientific article to the journal.

The Reaction Assessment instrument was an adaptation of the Reaction Assessment model and used by the Training and Qualification Unit of the Federal University of Paraná,<sup>7</sup> which was divided into the following sections: degree of satisfaction with the workshops, self-assessment of the knowledge acquired, methodology used, infrastructure, mediators, workshop evaluation and space for suggestions and criticisms related to the training action developed by the workshop.

Each question that made up the above sections was evaluated according to the degree of satisfaction between: unsatisfactory, partially satisfactory, satisfactory and fully satisfactory; which were then converted from categorical to numerical variables, according to the *Likert* scale, varying the categories in four levels of importance, from 1 to 4, with a single answer to each question. The higher the index, the better the participants' assessment and acquisition of knowledge<sup>6</sup>.

Data analysis was performed by means of absolute frequencies and weighted averages in each section evaluated, and the subjective responses of suggestions and criticisms were also considered, presented in a chart and discussed based on what is proposed in the current scientific literature.

## RESULTS

At the end of the Workshop, only 5 teams maintained assiduous participation, with voluntary response to the Reaction Evaluation form and delivery of the manuscript related to the awarded practice.

Chart 1 shows the average evaluation by category and in general related to the satisfaction and quality of the training performed, which ranged from satisfactory to fully satisfactory, highlighting that the lowest average observed was present in the infrastructure category, which was related to *weaknesses in the online* format, access and connection.

**Chart 1 - Reaction Evaluation of the Scientific Knowledge Production Workshop. Fortaleza, 2023.**

CATEGORIES	TEAM 1	TEAM 2	TEAM 3	TEAM 4	TEAM 5	TOTAL
Self-Assessment	3,72	3,81	3,81	3,90	4	3,85
Methodology Evaluation	4	3,09	4	4	4	3,81
Infrastructure	3,5	3,75	4	3	4	3,65

<sup>7</sup><https://www.prppg.ufpr.br/site/portalcapacitacao/wp-content/uploads/sites/113/2022/07/1--avaliacao-de-reacao-modelo.pdf>

<b>Evaluation of Mediators</b>	3,71	4	4	4	4	3,94
<b>Evaluation of the Workshops</b>	4	4	4	4	4	4
<b>Overall Satisfaction Rating</b>	4	4	4	4	4	4

Source: Prepared by the authors, 2023.

Chart 2 presents the main categories that emerged in the teams' suggestions, which, in addition to reflecting the need to include the workshop as a permanent action, which can encompass other professionals and in a course format (workload), also expressed the need for individual guidance, which was partially contemplated when individual considerations were made in the discussion classes about the writing of each team. However, the need for individual and individual orientation by team seems to be emphasized in the statements. In addition, the absence of the hybrid format pointed out in the suggestions converges as a weakness pointed out in the evaluation of the infrastructure present in Chart 1.

**Chart 2 - Suggestions related to the training carried out. Fortaleza, 2023.**

<b>SUGGESTIONS</b>
Continuity of the workshop for the qualification of other professionals
Increased workload
Individual orientation moments
One mediator per team
Face-to-face format

Source: Prepared by the authors, 2023.

## DISCUSSION

According to the synthesis presented in the first table, it is possible to identify the distribution of factors that influence the learning process. From this perspective, evaluation is an essential component of any educational moment. It can refer to a systematic collection of data on the learning of the group in which appropriate methods are adopted. The evaluation should be used for informational or diagnostic purposes, identifying the potential of the strategies, as well as contributing to the identification of areas for improvement. Thus, evaluation becomes an inherent component of teaching strategies<sup>6</sup>.

The evaluation process of the workshops points to the need to understand the points addressed, from the methodological modality to the planning and structuring of future editions. Thus, the theme of evaluation is perceived not only by the investigative bias, but also by the development of a set of strategies aimed at different audiences, as well as the achievement of new evaluative incursions by the facilitators involved. Thus, the evaluation process takes place as a way of feeding back into the practical field of action<sup>7,8</sup>.

The evaluation process noted in chart 2 exemplifies the workshops as an important tool for the development of academic writing, being evidenced as a component of teaching and learning, evidencing the need for continuity of these actions. Thus, the process of collective construction evidences the permanence and its success as a formative dialogical process<sup>9</sup>.

In the context of higher education, textual production is a routine practice and required by all courses, however, in the routine of health care practice, there is not so much demand for this model, distancing

the actors from this conduction. In this sense, the academic writing process is still a challenging task, and the difficulties presented by students to organize writing are notorious<sup>10</sup>. This fact corroborates the legitimacy of assuming the suggestions in chart 2 as the foundation of practice as essential in the production of knowledge.

The fragility of training related to poor *online* connection infrastructure is one of the difficulties that are presented to qualification at work, as also shown in a survey carried out in 2022 by *PricewaterhouseCoopers Brasil Ltda* (PwC Brazil) with Instituto Locomotiva. The research revealed that the difficulty of quality access to the international computer network impairs educational processes and, in the long term, may prove to be a factor that generates a decrease in jobs within the formal labor market, since it hinders the relationship with the updating and qualification of professionals<sup>11</sup>.

The idealization of the classes of the remote model was due to the facilitated coverage of the various municipalities of Ceará during the process of building the workshops, however, one of the requests evoked during the classes and in the evaluation process was the expansion of the model to the face-to-face version.

Since the Covid-19 pandemic, a version of remote teaching has taken over Brazil and the world. Since the physical closure of educational institutions, the remote teaching modality has gained more space and has led teachers, students and other professionals to adapt to online learning and teaching. Although they bring numerous benefits, such as the possibility of having tools to support learning such as video classes, summaries, *online* tutoring, among others, the model is now questioned due to the difficulty in adopting strategies that become didactically effective for learning, requiring the expansion of dynamic actions in order to favor the flow of information between facilitators and the target audience<sup>12</sup>.

The online format is a complex advance based on the adoption of digital tools, which requires investment in infrastructure, teacher training, and cultural change (face-to-face-online)<sup>13</sup>. However, the combination of these elements involves a time in conflict with the speed of change imposed by technology, which ends up not offering support in infrastructure<sup>14</sup>, which reflects on the individual's learning difficulty, a factor that may generate a preference for face-to-face classes, as mentioned in the results of our study.

It is possible to analyze, based on the experience, that one of the greatest challenges of the executive committee, in the process of advising on the construction of the manuscripts, was to maintain the participation of the ten awarded municipalities in the workshops, since only five of them were assiduous in the activities. One of the limitations is the work model of public agents, with the most varied demands overloading them, requiring more time, which was not possible due to the different realities. In addition to the turnover of these professionals in the health territories.

## CONCLUSION

Through the execution of the workshops, it is possible to evidence positive links between the reactions and the impact of the workshop on the work of those involved, that is, from the innovative practice carried out by the team, with a greater approximation of ideas, terms and concepts related to the area of scientific writing, as well as relating them to the theme of the practice carried out and to the investigation of the research. This condition highlights the importance of training to train and involve professionals in scientific writing.

Through this experience, it was also observed that there is a great need for this process and the expansion of training for more professionals within the scope of the public health system at its different levels of care, with the objective of approaching scientific writing, given that it is directly related to the construction of professional training in a solid and expanded way.

However, low participation was also observed, showing the challenges and complexity of the process, in addition to revealing difficulties, however, it can contribute to the planning process of future actions, so that they can expand their potential, with a view to contemplating their community and the scientific

dissemination of successful health practices to society, especially regarding the quality of life of the people in it.

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