

48 - ACTION RESEARCH TO INVESTIGATE A LOCAL PROBLEM

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Introduction

Researching an educational action presents a broad challenge, because its objective is to understand the reality of which the human being is protagonist. In this work, the research subjects are adolescents, these for numerous reasons are inclined to be affected by behavior changes that can influence the results of a pedagogical investigation.

In the course of the pedagogical actions, a much ampler room than the classroom spontaneously arose, in which the participants could reflect, allowing the construction of conceptions that provided new attitudes in the school environment. In the face of this strong interaction, this research was characterized as qualitative for dealing with issues of reality and that, according to Ludke and André (1986, p. 6), "assumes the direct and prolonged contact of the researcher with the environment and the situation being investigated, as a rule through the intensive field research", with characteristics of context provided reflections and questions, that favored the referral of an action research

It is important to note that the methodological procedures of this research were performed at multiple times, always seeking to arouse students' curiosity about the chemical contents through everyday matters, that suited to leverage the importance of science within the technological, economic and social processes in order to investigate the contribution of a problematizing issue in the teaching of chemistry based on the CTS proposal.

The Action Research

An action research according to Barbier (2007), is initiated with a proposal of change induced by the researcher, in which the daily life is not excluded from the process of knowledge construction, both by pragmatism and by insistence on the habit of knowing the subjects involved. The researcher defines intervention and research strategies, and as the plan of action progresses, new meanings are shared, enabling alteration of the elements of the research, hypothesis, problems and questions.

The considerations described occurred in the present research, where not only the research strategies were changed, as the activities planned for development during the intervention to collect data. According to the statements of Bogdan and Biklen (1994, p. 83), in which "Qualitative researchers have a plan [...] The way they proceed is based on theoretical hypotheses and data collection traditions. These provide the parameters, tools and general guidance for the following steps".

In this research, the interest on the educational process (BOGDAN; BIKLEN, 1994) was valued, considering as elements of analysis the actions and observations of the subjects associated to the context. The production developed by the students and the records held during the classes were also considered. In proposing a qualitative research, it was assumed the evaluation of a partial look on the object of study, expecting a complementarity of views provided by the subjects involved in the intervention.

For Bogdan and Biklen the inductive process of data analysis in qualitative research resembles a funnel in which "[...] things are open at the beginning (or at the top) and become more closed and specific at the extreme" (1994, p. 50) in a situation where the researcher selects what seems most important to him according to the educational process. Finally, according to the last characteristic pointed out by the authors, the qualitative approach should be interested in how people give meaning to their lives – or to aspects of it, how they interpret certain facts and why they interpret them this way or the other.

Similar definition of research-action is presented by Thiollent (2009 p. 16), as a "social research on an empirical basis that is conceived and conducted in close association with an action or a resolution of a collective problem and in which researchers and participants representing the situation or the problem are involved in a cooperative or participatory manner".

Considering action research as a methodological way of solving a collective problem, it was necessary to rethink that the research problem was not reduced to the researcher's aspirations, but to the demands and interests of a social group. In this perspective, the delimitation of the problem aimed to meet the perspectives of the subjects and the meaning they attribute to this issue in their lives, defined as the research progressed, to increase the contact between researchers, context and participants, giving new meanings to conceptions from the reflection and participation of the subjects. In this conception, the students' dialogues were analyzed, and the one that pointed out a collective desire to learn chemistry for life was delimited. It is important to highlight the classification of this methodology of action research, of situational research when diagnosing the problem in a specific context to solve it; collaborative research by involving several people working with a single goal; participatory research to the direct and indirect interaction of all involved; and finally, self-evaluation research when evaluating the modifications continuously in order to improve the practice.

For Lewin (1978, p. 216), action research is a type of action research, a comparative research about the conditions and results of various forms of social action and research that leads to social action". He proposed as an objective of action research, in addition to theoretical research, the resolution of the social problem. It is the resolution of the social problem that influences theoretical research. Thiollent (2009, p. 50) confirms this implication by stating that the theme in the research-action "is the designation of the practical problem and the area of knowledge to be addressed" and by claiming that there was nothing more practical than a good theory, Lewin proposed a close link between the theoretical and the practical problem.

In this context, it was followed by the use of action research with the aim of instigating the interest of students in research, delimitation and resolution of a local problem in the teaching of chemistry.

Methodology for action research

The research was conducted by means of an action-research to delimit a local problem. Figure 1 illustrates the

organogram divided into moments that totaled 29 (twenty-nine) sequential classes, within the programmatic content called teaching action-research moments.

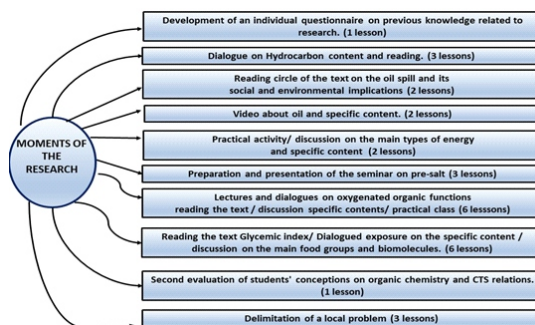


Figure 1 - Moments of teaching research-action
Source: Author (2018)

The initial proposal was based on the production of different teaching materials on the topic Hydrocarbons with a CTS approach, and started in March by means of an individual questionnaire containing seven open questions, aiming to raise students' previous knowledge of the organic functions of hydrocarbons, science, technology and their implications for society.

The analysis of the actions of the students and the responses to the questionnaires revealed important information for the continuity of the research. In answering the questionnaires, the students presented many difficulties in understanding the questions and preparing the answers. And, even after the intervention of the researcher, part presented difficulty to write the answers, others were apathetic about the participation, justified by the disinterest to questions related to chemistry and about it to their lives. This scenario led to reflections and refocused the planning of activities.

The second moment, began through exposure dialogued using the video What is Oil? (YouTube/ Petrobras, 2012) exhibiting information on the origin of hydrocarbons, the formation and exploration of oil, some of the history and the main by-products. And a sequence of images of oil deposits, exploration, fractional distillation presented on multimedia TV. After that, the researcher conducted a discussion based on the text available in the New Chemistry Magazine at the School (QNES) "Petroleum: a theme for the Teaching of Chemistry" (MARIA et al., 2002). However the participation of the students was still very timid, understandable due to the difficulties of interpretation presented already in the first moment.

Based on the objective of presenting chemistry on another aspect, when addressing the importance to society and the influences of this science in the scientific and technological development, an activity took place at the third moment of the research, a reading circle, using the text "Far from the Gulf, oil leak in Nigeria lasts fifty years" (KINGS, 2016 p. 35-43), which deals with the oil spill that occurs since years ago and the social and environmental implications caused by this accident. The reading and discussion of these articles enabled an approach that instigated students to reflect on the use of oil and how it influences the social environment. During the classes the researcher asked the students to take notes in their notebooks on more relevant aspects so that we could discuss them in the future.

In a fourth moment, it was exposed to the student's video "Oil Refining" (YouTube/ ANP 2013) that presents information on oil, how it is extracted, its physical and chemical constitution, its processing and use in the petrochemical industries, indicating various social, technological and environmental aspects of this compound and its derivatives. After the reading of the texts and the presentation of the video the students answered some questions about the specific content and from that a debate was promoted with the students.

In a fifth moment a practical activity took place, the determination of the alcohol content in gasoline. Issues such as solubility, types of solutions, biofuels, and clean energy have been addressed. The students were organized into groups and received some guidance on the class and carried out the activity guided by the researcher. Still at the fifth moment the discussion on the main types of energies and their sources was resumed, supported by the text "Greenhouse Effect Gases" (NOVAIS; ANTUNES, 2016, p. 77-78) dealing with the impacts of the use of fossil fuels and their reflections on society. The various texts used, corresponding to the themes, were chosen by easy-to-understand presentation, rich in examples and images, providing support for the conduct of discussions in the classroom.

In a sixth moment, it was proposed to the students the elaboration of a seminar on the theme Pre-Salt, aiming at a greater involvement of these students. The class was divided into three groups, each group was responsible for a certain subject. The sub-topics chosen were "The formation of the Pre-Salt and its characteristics", "Main challenges in the exploration of the Pre-Salt" and "Technologies that are used in the exploration process". The students had two weeks to prepare their exhibition, some research was done in the computer lab and the school library at night using the chemistry classes, other moments were also used, since most students don't work during the day.

In a seventh moment, at the beginning of the second bimester the research continued, with the study of oxygenated organic functions, from dialogued classes, with the material available in the book "Citizen Chemistry" of Santos and Mól (2013, p. 58-66) "Food and Organic Functions". During the reading some topics were discussed; such as the importance of foods, the nutritional value of foods and the main food classes. During the course of the activity, students were asked to bring to the school a cake recipe, identifying the main food groups present and the chemical elements belonging to each group. After that, an activity was conducted where students were instructed to answer the question "What components are present in the cake?" After this activity, the practice of dehydration of the sucrose molecule was performed with sulfuric acid mediated by the researcher.

In an eighth moment, it was presented to the class the text "Glycemic Index" available in the Chemistry Book (REIS, 2016 p. 240), which addresses the issues of food, the consumption of refined and whole carbohydrates, lipids and the relationship of increased blood sugar level with an inadequate diet. This activity included several curricular contents in the State School Guidelines (Paraná, 2008).

After carrying out the proposed activities in the first and second bimesters of 2017, the students carried out a new evaluation through an interactive activity, their conceptions on the content of organic chemistry, what would be the role of the school in this learning process and as a student what would be its role.

It was noticed that there was a greater awareness for correlation of chemistry to everyday life, which instigated research around the school that culminated in the delimitation of a problem, the disposal of cooking oil.

Results and discussions of the action research for delimitation of the local problem

In the action research, it was observed that the use of different strategies to approach the subject, induced students to establish relations and objectives that permeate the teaching of the discipline. Chemistry teaching must be focused on the interrelation of basic components: chemical information and the social context, because the education of the citizen requires not only to understand chemistry, but also to understand the society in which it is inserted (SAINTS; SCHNETZLER, 2003). This is a question of great importance, facing a situation a participant of the research makes the following question, student A02: "teacher what relation chemistry has to the environment?"

The proposal of this work values the student as an individual with critical thinking, which has its role in society, giving to the teacher the opportunity as mediator of the educational process. Openness to dialogues are fundamental tools in the process of motivating learning. It is very important that teachers value every attempt of the student to learn, this attitude builds a positive atmosphere in the educational process.

The researches, the construction of texts, the resolution of exercises, the readings and discussions, the elaboration of workshops and organization of activities made possible the exchange of information and knowledge between the research participants and the researcher. This exchange of information values the role of the school and contributes to the learning process. The possibility of doing action research in the field of chemistry teaching experienced by students and analyzing with them, through dialogue, brings different meanings to knowledge and its construction.

The analysis of the results of the data collection was based on the study involving the answers of the students regarding the initial questions about the organic hydrocarbon function and the CTS relations. As the research participants answered the diagnostic questionnaire, they verbalized their difficulties and ideas with the researcher and other colleagues.

It was noticed in the analysis of the answers to the questionnaire that the students showed difficulties to express themselves, even writing in summarized answers that did not present many explanations.

The answers to the questions presented to the students are shown below. On the students' previous ideas about what hydrocarbons are and their compounds, they indicated that the majority 80% did not know or did not respond, and only 20% stated that hydrocarbons are formed by carbon and hydrogen, of these cited in the second question examples of hydrocarbons; 45% petroleum products, 25% gasoline, 12% cooking gas, 8% kerosene, 5% rubber and 5% living organisms.

In question 3 on hydrocarbons causing problems for society and which problems we could point out. The responses indicated that 50% believe that these products do not cause problems to society, 15% could not respond and 35% said they cause problems. The main problems cited in the students' answers indicate, 62% air pollution, 25% sea pollution through leaks and 13% point to wars between countries.

In the fourth question about what is science, the student responses show the following results 35% answered that science studies the social phenomena of nature and human being, 45% answered that it is the study of all that exists, 10% answered that science provides the answer to all questions, 10% said it is related to the study of technology.

Students' answers to question 5 about what technology is, generated seven categories, where most 33% considered advancement of something, 15% used to provide a better life, 15% way to update the world quickly, 11% knowledge in the evolution of things, 8% what connects us to the virtual world, 7% related to innovation, 7% did not know how to respond and 4% serves to disrupt people.

Technology cannot be considered a basic science, it is an application of science and must be understood as such, without only a positivist view prevailing. Bastos (1998, p. 13) affirms that technology is a mode of production, which uses all the tools, inventions and artifices and that, therefore, it is also a way of organizing and linking social issues in the field of productive forces. Therefore, technology is seen as space of cost and sale, in an organized and applied manner. We live in a world in which technology represents the way of life of the society, in which automation, genetic engineering and electronic computing are some of the icons that technological society involves us daily. This is the reason for the need to reflect on the nature of technology, its importance and its social function (SILVEIRA; BAZZO, 2006).

It is perceived that in most of the answers, technology is seen as a social process, it is assumed that this belief comes from the impulse for the advancement of technological development, which is derived from science, that is, all technological development depends hierarchically on scientific research or scientific knowledge, because these constitute the only objective form of knowledge on which all the others depend.

The answers to question 6 dealing with science neutrality the students had some difficulties to answer them, the researcher needed to make an approach with the students to facilitate a bit the understanding of the question, but still many did not respond.

In the seventh question about the social implications of science, students did not understand the meaning of the word implications, so the researcher needed to intervene in the question and explain to students. In the answers to question 7 it is realized that 50% of students believe that science has social implications, 30% did not know how to answer and 20% believes that science does not interfere with social questions.

Still on question seven, it is noted that 50% of students believe that science has positive implications for society, as does most of the population. This positivist view, even if we do not know what kind of social role each one has, can generate frustrations and social dependencies. Some of the answers presented to the question, student A17 "wrote that science helps people's health", student A04 states that the "science assists in the production of medicines, plantations of farms that provides the markets so that society can buy". On the other hand, student A15 "the science has positive and negative implications, as find cure for the diseases, but also the creation of nuclear bombs".

Finally, the analysis of the responses and actions of the students revealed many difficulties and lack of interest in the discipline. This scenario led the research to other ways, the goal would be to arouse the motivation and interest of the students.

During the course of the classes there was discussion about the characteristics of the petroleum, in the sequence it was worked with the text on the pollution of the petroleum this activity aroused a greater interest of the students, there was participation and discussions with the researcher, and when questioned they expounded their ideas on oil pollution.

In addition to the discussions about the impacts of oil waste, the specific content on the carbonic chains was worked using activities with gum and some basic contents for the understanding of a distillation tower and the fractionation of the petrochemical compounds.

At the fourth moment the oil refining process was worked from a video that presented information on the subject. Following this, a discussion took place in the classroom, which took place in a more collaborative and productive way regarding the chemical contents. In addition to the discussions, the students answered a questionnaire composed of 6 open questions.

In analysis of the answers to the question about the knowledge of petroleum by-products, they all answered that they already knew some derivative compound, already in the question about the classification of the chemical function, only 5 students

answered that it was the hydrocarbons, evidencing that the classes were not yet enough to understand the subject. In the third question about the importance of oil refining 12 students answered that refining is necessary for the separation of products, but they wrote nothing more.

The fourth question about the differences between crude oils only 1 student answered that the composition may vary depending on the type of soil and its chemical composition.

The fifth question about whether or not oil can be renewable 75% of the answers were affirmative, it is understood that most students understood the relationship between renewable and non-renewable energy.

The sixth question was related to the knowledge of other sources of renewable energy, all the students answered that they knew, the most mentioned examples by the students were: wind, solar and hydroelectric energy. The activities were resumed in the room and the questions that most presented doubts were clarified.

A practical lesson on the determination of alcohol content in gasoline was conducted in another time. The class participated in a shy way, even being a team activity. During the performance of the practice some of the questions made to class were answered, as the question of solubility, most of the class understood the term solution and dissolve. The issue of biofuels and clean energy also played a good part. The students performed the practice and were able to interpret the results satisfactorily. The researcher assisted in the calculation of the percentage of alcohol and in the interpretation of the results. The students' understanding was very valid in this activity. The greatest difficulties encountered in carrying out the practical activity were the logistic question of the laboratory and the lack of materials.

As a follow-up to the action research and completion of the two-month academic program, it was proposed to students to develop a seminar on a topic that was discussed in the classroom, since, the mastery of speech is as fundamental and important as any ability, the theme chosen was the Pre-salt and the sub-topics per group would be The formation of the pre-salt and its characteristics; Main challenges in the exploration of the Pre-salt; Technologies that are used in the exploration process.

According to Masetto (2010, p. 111), the seminar is a very rich learning technique that allows the student to develop his research capacity, knowledge production, communication, organization and foundation of ideas, of a research report, in a collective manner.

The students had two weeks to prepare their exhibition. The evaluation of the seminar had contributions and critical viewpoints that emerged from the research work developed by the students. Each presentation was followed by a debate and critical reflection on the subject.

The second two months was initiated through a dialogue with the students about what food was like in the old days, how their grandparents acquired their food, how the transportation of these products was carried out. There was good interaction from the class, the student A06 commented "I still live in the place with my family, including me, drink milk straight from the cow". Still another comment of the student A15, "but teacher food is all the time in our life, at home I have a vegetable garden".

From these discussions we started with the theme food and organic functions, performing the reading of the text available in the book Citizen Chemistry. During the reading we discussed the importance of natural and industrialized foods, the nutritional value of foods and the main food classes. As an activity, students were asked to bring a cake recipe to class, identifying the main food groups present and the chemical elements belonging to each group.

Next, the recipes were shared in the room, students A02 and A18 commented "teacher looked up the name of the elements in the periodic table, because it only showed carbohydrates, lipids and proteins".

Then the students answered the question, "What components are present in the cake?" The answers were the most varied and the discussion about food groups and their respective elements as well. Among the answers presented by the students the words "carbohydrates, sugar, eggs, proteins" were cited several times. Next, the students were asked what carbohydrates would be, the answers were "muscle mass, fattening, sugar, wheat", and that the main elements present in these molecules would be the "carbon, hydrogen, oxygen and water".

After this activity, it was performed the practice of dehydration of the sucrose molecule with the sulfuric acid, in this practice the students were instigated to answer the following questions. Why the sugar was darkening? What was being formed in the reaction? Why was the beaker warming? What kind of reaction was that?

As a result of this practice, only the student A18 answered the first question, "the sugar is getting dark because it has carbon and looks like caramel", for the second question the students A15 and A19 answered that "it was looking like a coal" the other questions were not answered. So, the researcher intervened in these questions.

To complete the activities the students performed reading the text on glycemic index of the book Martha Chemistry, who again addressed the subject biomolecules.

As a closing activity of the semester of 2017 students made a new evaluation of their conceptions on the content of chemistry, of the existing relations with their daily lives, what would be the role of the school in this learning process and as a student what would be their role. This evaluation was made from a questionnaire organized with three open questions.

For the first question we have the following results, of the 14 questionnaires analyzed 85.7% of the students answered that the chemistry is present in their daily lives and 14.3% could not answer. Affirmative responses associate chemistry in daily situations and were separated into 7 categories, most responses 31% were associated with personal hygiene products and cosmetics such as shampoo, creams, makeup and perfumes, 27% relate chemistry to food such as cakes, pies and breads, cleaners appeared in 15% of responses, 15% mentioned remedies, 4% related daily chemistry to the human body and 8% could not respond. In some of students' reports it is noticed a relation to their reality.

For Schenetzler and Rosa (2008), understanding the occurrence and mechanisms of chemical substances allows the student to understand the processes that happen every day in our lives, this is one of the foundations of meaningful learning.

Some of the answers chosen on the question of what contribution the school has made in its life have been removed in its original form from the questionnaire. For you how can school contribute to the learning being meaningful in your life? A01 "The school applying its work already helps us, preparing for the future, qualifying us; A02 "qualifying me and assisting me in my educational growth"; A13 "Opening spaces for students to speak, express themselves, to improve conviviality" A20 "Offering good teachers, materials for practical activities, be a little rigid so that at the university do not come up with problems" A06 "The school makes you think and learn new things, to take for the entire life, and teach others".

The third question was examined separately. The first part refers to the fact that chemical substances pollute the environment, 83% of the answers said yes and 17% claim not to know. The answers to the second part of the question about the situation of our planet, 85.7% of students believe they can contribute to the improvement of the environmental situation and 14.3% failed to answer. The main environmental actions cited by the students that could be carried out to contribute to the environment were recycling, dumping in the right places and conserving fauna and flora.

And the most important thing is that this sequence of activities in a process of action research instigated students to do research, delimitation and solution to the disposal of oil, a real and daily problem in each one's life, within a socioscientific context.

Conclusions

During the course of the research, several stages led to reflections on the implications of working with an action-research to delimit a local problem. And, at each moment of its realization, the answers revealed, identified in the students' conceptions regarding the social questions of science and technology, with the use of didactic alternatives already known within the school universe such as lectures, experimental activities, field activities and the use of problematization in the teaching of chemistry.

It was noticed that the results obtained throughout the process were the result of the opportunities in which activities can be correlated with the reality of the students with emphasis on the social and environmental issues, highlighting above all the importance of the work of the reflexive educator before the pedagogical practice and proposing changes when necessary.

Several concepts were worked on and reviewed during the theoretical and practical lessons. The experimental activities were interesting and motivating, providing students with access to knowledge. And, even with difficulties allowing the exploration of the new, they were important instruments in mediating knowledge, putting students as subjects of learning in the action research that instigated them to research, delimitation and solution for the disposal of oil, a real and daily problem in each one's life, within a socioscientific context.

Action research is, in fact, a social intervention that is not limited to describing and theorizing about a social problem of people's real everyday lives, but to effectively solve it as a practice theory that transforms reality and contributes to overcoming a situation-problem that has been experienced in the teaching of Chemistry and that can be extrapolated to other areas of knowledge.

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ACTION RESEARCH TO INVESTIGATE A LOCAL PROBLEM

ABSTRACT

This article presents a proposal to investigate a local problem in the teaching-learning process contextualized to the contents addressed in the classroom. The research was developed through action research, which sought to investigate the contribution of a problematizing issue in the teaching of chemistry in a CTS approach. The methodological approach used was the qualitative one of interpretative nature, performed with 20 students of the third year of the night high school in a college of the state school system of the city of Ponta Grossa, PR which were appointed from A01 to A20. The procedures involved socioscientific issues related initially to the use of hydrocarbons, food and subsequently addressed to local issues related to the consumption and disposal of cooking oil. The data analysis allowed to observe that the interaction of students with the topics covered has advanced within a reflective process for building knowledge through problematization, recognizing chemistry as a discipline of social and human formation.

Keywords: Action research; Research; Local problem.

RECHERCHE-ACTION POUR L'INVESTIGATION D'UN PROBLÈME LOCAL.

Résumé

Cet article présente une proposition de recherche d'une problématique locale dans le processus d'enseignement-apprentissage contextualisé aux contenus abordés en classe. La recherche a été développée par le biais de la recherche-action, qui visait à étudier l'apport d'un problème problématisant dans l'enseignement de la chimie dans une approche CTS. L'approche méthodologique utilisée était la nature interprétative qualitative, réalisée avec 20 étudiants de troisième année de lycée de nuit dans une école publique de la ville de Ponta Grossa, PR, nommés de A01 à A20. Les procédures impliquaient des problèmes socio-scientifiques liés initialement à l'utilisation d'hydrocarbures, d'aliments, puis à des problèmes locaux liés à la consommation et à l'élimination des huiles de cuisson. L'analyse des données a permis de constater que l'interaction des étudiants avec les sujets traités s'avérait dans un processus réflexif de construction de la connaissance à travers la problématisation, reconnaissant la chimie comme une discipline de la formation sociale et humaine.

Mots-clés : Recherche-Action; Recherche; Problème local.

INVESTIGACIÓN-ACCIÓN PARA UNA INVESTIGACIÓN DE UN PROBLEMA LOCAL

Resumen

Este artículo presenta una propuesta de investigación acerca de una problemática local en la enseñanza/aprendizaje contextualizada a los contenidos abordados en el aula. Esta investigación fue desarrollada por medio de una investigación-acción, que logró averiguar la contribución de una cuestión de problematización en la enseñanza de la química en un abordaje CTS. El enfoque metodológico utilizado fue lo cualitativo de naturaleza interpretativa, que lo fue realizado con 20 estudiantes del tercer año de la secundaria, periodo nocturno, en un colegio de la red estatal de enseñanza de la ciudad de Ponta Grossa, PR, los cuales han sido nombrados A01 a A20. Los procedimientos involucraron cuestiones sociocientíficas ligadas inicialmente a la utilización de los hidrocarburos, de alimentos y posteriormente dirigidas a la problemática local involucrada al consumo y desecho de aceite de cocina. Los análisis de los datos permitieron mirar que la interacción de los estudiantes con los temas

tratados ha avanzado en un proceso reflexivo para la construcción del conocimiento por medio de la problematización, reconociendo la química como una disciplina de formación social y humana.

Palabras clave: Investigación-acción; Investigación; Problema local.

PESQUISA-AÇÃO PARA INVESTIGAÇÃO DE UM PROBLEMA LOCAL

Resumo

O presente artigo apresenta uma proposta de investigação de uma problemática local no processo ensino-aprendizagem contextualizado aos conteúdos abordados em sala de aula. A pesquisa foi desenvolvida por meio de pesquisa-ação, que buscou investigar a contribuição de uma questão problematizadora no ensino da química numa abordagem CTS. A abordagem metodológica utilizada foi a qualitativa de natureza interpretativa, realizada com 20 estudantes do terceiro ano do ensino médio noturno em um colégio da rede estadual de ensino da cidade de Ponta Grossa, PR os quais foram nomeados de A01 até A20. Os procedimentos envolveram questões sociocientíficas relacionadas inicialmente ao uso dos hidrocarbonetos, de alimentos e posteriormente direcionadas a problemática local relacionada ao consumo e descarte do óleo de cozinha. As análises dos dados permitiram observar que a interação dos estudantes com os assuntos tratados avançou dentro de um processo reflexivo para construção do conhecimento por meio da problematização, reconhecendo a química como uma disciplina de formação social e humana.

Palavras-chave: Pesquisa-ação; Investigação; Problema local.