

## DISCOVERING AUTOSCOPY AS A MEANS TOWARDS REFLECTION AND LEARNING

DESCOBRINDO NA AUTOSCOPIA UM CAMINHO PARA REFLETIR E APRENDER

DESCUBRIENDO EN LA AUTOSCOPIA UN CAMINO PARA REFLEXIONAR Y APRENDER

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### ABSTRACT

This teaching case describes an experiment in the training of researchers through autoscopia, a methodological device of a qualitative nature with a reflective approach. Autoscopia is an alternative to the use of interviews in qualitative research. It includes two phases: video recording and reflective sessions. This study aims to promote discussion of an experiment, and reflection on the feasibility of applying autoscopia to it. It describes the practical training of researchers, and highlights the moments of learning during the experiment, which was performed with researchers and fellows of a Federal University in Brazil. Besides describing the pilot implementation of the methodology, the teaching case includes learning objectives, discussion questions and references to help in discussing the case. Autoscopia is a device that involves reflection and is therefore appropriate for use in disciplines that work with experiential learning and training in research methodology.

**Keywords:** Teaching Case. Formation of Researchers. Autoscopia. Reflection. Learning.

## RESUMO

O caso aborda a experiência de formação de pesquisadores por meio da autoscopia, um dispositivo metodológico de natureza qualitativa com abordagem reflexiva. A autoscopia é uma alternativa ao uso de entrevistas em pesquisas qualitativas. Essa fase de pesquisa integra dois momentos: videogravação e sessões reflexivas. Objetiva-se nesse caso fomentar discussões sobre uma experiência vivencial e refletir acerca da viabilidade da aplicação da autoscopia. Conta a história do treinamento prático de pesquisadores, ao destacar os momentos de aprendizado durante o experimento que foi realizado com pesquisadores e bolsistas de uma Universidade Federal do Brasil. Além de narrar a implementação piloto da metodologia, o caso de ensino inclui objetivos de aprendizagem, questões de discussão e referências para ajudar na discussão do caso. É um método que implica reflexão e, portanto, apropriado para uso em disciplinas que trabalham com aprendizagem experiencial e treinamento em metodologia de pesquisa.

**Palavras-chave:** Caso de Ensino. Formação de Pesquisadores. Autoscopia. Reflexão. Aprendizagem.

## RESUMEN

El caso aborda la experiencia de formación de investigadores por medio de la autoscopia, un dispositivo metodológico de naturaleza cualitativa con abordaje reflexivo. La autoscopia es una alternativa al uso de entrevistas en investigaciones cualitativas. Esta fase de investigación integra dos momentos: vídeo grabación y sesiones reflexivas. Se objetiva en este caso fomentar discusiones sobre una experiencia vivencial y reflexionar acerca de la viabilidad de la aplicación de la autoscopia. Cuenta la historia del entrenamiento práctico de investigadores, al destacar los momentos de aprendizaje durante el experimento que fue realizado con investigadores y pasantes de una Universidad Federal de Brasil. Además de narrar la implementación piloto de la metodología, el caso de enseñanza incluye objetivos de aprendizaje, cuestiones de discusión y referencias para ayudar en la discusión del caso. Es un método que implica reflexionar y, por tanto, apropiado para uso en disciplinas que trabajan con aprendizaje experiencial y entrenamiento en metodología de investigación.

**Palabras-clave:** Caso de Enseñanza. Formación de investigadores. Autoscopia. Reflexión. Aprendizaje.

## 1 INTRODUCTION

Professors, researchers and students of a Federal University (FU) and other educational institutes came together for a meeting called “Coffee with Research”. The purposes of this meeting were to learn more about the routes towards publication in Business Administration, and to discuss new approaches to qualitative research in the field. At one point, an opportunity arose for reflection on the pathways of the projects of those researchers present, in terms of the methodological demands to be met.

Among the researchers was Dr. Clara, coordinator of an ongoing project at (FU), which set out to study how recyclable waste collectors learn to become entrepreneurs. Attending ‘Coffee with Research’ got her thinking. Two scientific initiation students worked with her and were supposed to run work plans regarding entrepreneurship learning and entrepreneurial competencies. The context of the research was different, because most of the collectors are semiliterate or illiterate, so Dr. Clara and her students began to wonder: should they use a conventional approach to collect data, or should they choose a methodology that could also contribute to the collectors’ understanding of entrepreneurial learning and competencies, through their daily actions?

Considering the respondents’ profile, the researchers also had concerns about communication difficulties that could impact the results of the survey. So they asked a few questions: should we use a conventional approach to the data collection, such as interview or questionnaire, or should we try to find an alternative methodological approach that will make communication easier?

## 2 RESEARCHERS' PREVIOUS EXPERIENCES

Dr. Clara had had earlier experience of a methodology with great reflective potential, called autoscapy, in which the subjects of the study watched a video recording of themselves performing their activities, and were then encouraged to talk about it. However, this experiment was conducted with people whose profile was different from that of the garbage collectors. When Dr Clara presented her experience to the project team, they agreed that the methodology would fit the research objectives, but that some modifications and adaptations would be needed.

The other members of the group – the research students – did not have any previous research experience. Erica was an undergraduate in the fourth period and André was also an undergraduate student, in the fifth period. The research with garbage collectors would be their first research experience, and they would need to learn research methods and procedures and have a good knowledge of the research context.

Considering the need to adjust the methodological device, and the need to train the members of the research team, it was decided to invite an experienced researcher to help the team adapt the project and to give training. So, Dr. Neves from the Department of Educational Psychology, Faculty of Education of the Universidade Estadual de Campinas was invited. She promptly accepted the invitation and made arrangements for her trip to Goiânia. She was asked to come and answer queries from the team, particularly with regard to learning the methodological procedures for the proper application of autoscapy to the particular context of the study.

The researchers eagerly discussed the coming of Dr. Neves: how would researchers and students be introduced to the research methodology? What would be the best way to learn the procedures of video recording, reflection and audio recording? How could the specific context of the study be exploited in order to adapt it to the autoscapy video recording procedures? What would be the best way to benefit from the presence of the visiting professor?

### 2.1 A Schedule of Activities with the External Researcher

- Arrangements to receive Dr. Neves were made. First, an analysis of the research project and a work plan were drawn up, in order to decide which methodological issues should be addressed with the external researcher. The proposed work schedule was three days long and was approved in advance by Dr. Neves, by e-mail. It covered the following activities:
- a lecture in which the professor would share her experience with autoscapy;
- a field trip so that the visiting professor could get to know the background to the project and the profile of those involved and suggest adjustments to the methodology;
- drafting of a pilot study plan, based on what was learnt during the field trip, involving the phases of the research process (team preparation, video recording and reflective sessions).
- application of the procedure in a pilot scheme;
- evaluation of what the researchers learned during the pilot scheme.

### 2.2 Beginning the Learning Experiences With the External Researcher: Lecture and Field Trip

As planned, Dr. Neves's work on the project began with a lecture in which she presented her experience with autoscapy. The lecture was attended by researchers, professors, and undergraduate students of the Business Administration Course and scholarship holders from the FU Social Incubator.

Professor Neves mentioned that her experience with the methodology was conducted with research teachers, while stressing that this procedure had also been applied in the organizational context. According to her, teachers tend to reflect more about their actions and review and adjust aspects, which could help improve their practice. Similarly, it has been seen that managers in the organizational context tend to reflect more on their attitudes towards situations in everyday life and are stimulated to review attitudes and ways of responding to circumstances in their work. She also highlighted the potential for reflection on the procedure itself, as well as its training aspects. At this point, the researchers

wondered whether autoscopia would be better for educational and organizational contexts, or whether it would also meet their research needs ?

The participants also wondered if the method could be invasive. How would the people being studied react during the video recorded sessions? What would be the best way to approach the research subjects so they would feel reassured and act naturally during the video recordings? What should be done to make them feel confident in expressing their opinions sincerely on seeing themselves on screen, and then reflecting on their actions during the reflective sessions?

As Dr. Neves answered the questions, Dr. Clara and her scholarship students reflected on the project and the plan that led to the meeting . At this moment in the learning process, many other issues arose and were incorporated into other training activities as the work with Dr. Neves progressed. Given the specificities of the research context, the researchers wondered whether the potential benefits of the method (the opportunity to reflect on the video recordings of daily activities) would outweigh the possibility of the subjects feeling intimidated, which could harm the data collection?

The field experiment began the next morning. Dr. Neves got to know the profile of the interlocutors involved in the research and the context in which the research would be carried out. Dr. Clara and her scientific initiation students observed Dr. Neves attentively to learn from her. The researcher's special way of approaching and addressing people was noted. During this time, the observers took notes on relevant issues, noting any questions to be discussed with Dr. Neves. Learning by observing Dr. Neves in action in the field helped the researchers with various aspects, including drawing up strategies for approaching and getting closer to people in the research field.

On the evening of the field visit, the research team drafted the pilot research scheme. The guidelines given by the external researcher, and the comments of Dr. Clara and her students Erica and Andre, were considered in the elaboration of the work plans to be implemented using autoscopia as a methodology<sup>1</sup>.

### **2.3 Applying The Methodology and Experiential Learning**

That evening, the team met to discuss how to proceed. Dr. Neves gave her impressions of what she had observed in the field. Dr. Clara and the scholarship students brought their notes and questions and many expectations. During the discussion, it was decided to hold a pilot experiment to apply the methodology, taking into consideration the particularities observed during the visit.

The first point discussed was where the pilot session would be held. There was a consensus that it should not be conducted in the same place as where the project would be carried out. It should first be applied to people who were knowledgeable about cooperatives. So it was decided that the pilot experiment would be carried out with the Incubator scholarship students who work with cooperatives in different support activities. This decision was accepted for two reasons: First the Incubator students were familiar with cooperatives and associations and therefore could express their views on the suitability of autoscopia for this milieu, especially after having participated in the pilot application and knowing the dynamics of the process. Second, as some of them had already participated in Dr. Neves's lecture, it would be an opportunity for further training.

## **3 THE PILOT EXPERIMENT AND LEARNING**

For Dr. Clara and the scholarship students, this experiment was a special opportunity to see how a renowned researcher in a certain methodology would implement the method in practice. From that moment, it was also expected that Incubator members would help the researchers to adapt the procedure for use with the cooperative workers.

The pilot experiment carried out with FU Social Incubator scholarship students began with Dr. Neves's presentation of the methodology. Then, Dr. Clara and the students gave a brief presentation of the project and the

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<sup>1</sup> The FU Incubator carries out extensive projects in support of Cooperatives and Associations of garbage and recyclable material collectors. Scholarship students from different fields of knowledge belong to the team.

research plans to be carried out in the cooperatives. Dr. Neves then asked the students for their opinion as to the suitability of the methodology for the objectives of the project. Some found it a very interesting proposal, while others wondered whether the research subjects might be intimidated by the research method. Professor Neves then inquired whether the researchers would like to gain some experience with autoscopia by participating in the pilot scheme, so that they would be better informed about the methodology. They agreed, and Dr. Neves requested that two students volunteer to participate in an active manner in the process. Dr. Neves and the scholarship students helped Dr. Neves with the video recording and preparation of the venue for the experience.

At first, the group was rather anxious; timid yet curious about the application of the experiment, until Pedro agreed to participate. It was suggested by the other students at the session that for the activity, which would be video recorded, Pedro would teach another student, Luana, how to make coffee using a coffeemaker, as he was the best coffee maker in the Incubator and Luana did not know how to use the machine. Jacira, the Incubator accountant, participated in a second session, albeit rather reluctantly and at the insistence of the group of Incubator students. She taught them what a 'Cash Book' is in accounting, and even though she was fully versed in the subject, she was nervous. Both video recordings were made quickly, in less than five minutes. The idea was to hold a session of reflection afterwards, so that the steps of the procedure studied would be applied immediately, enabling the researchers and students to see the methodology cycle during the pilot experiment.

In the video recording of Pedro, Dr. Neves reminded the project team about positioning the equipment so that the whole teaching and learning process involving Pedro and Luana would be shown on the video. During the video recording, the trainee researchers also observed how Dr. Neves dealt, for example, with shyness in front of the camera, as in the case of Jacira. The professor continued talking to her and asking questions about her life, trying to distract her so that she would forget she was being filmed, and feel confident in explaining what a 'Cash Book' is. Thus, the video recording sessions of the pilot experiment ended.

To expand the learning opportunities for the researchers and students present, the professor adopted two different approach strategies during the reflection sessions with Pedro and Jacira.

During Pedro's reflection session, Dr. Neves used the inquiry method, i.e. asking him about the way he taught how to make coffee. The whole time, Pedro was defending his actions, an attitude that was predicted and planned by the professor to show when a person should be asked questions during the reflective session on their actions, and when not to ask questions.

Throughout the reflective session, Dr. Clara and students, on observing Dr. Neves's role learned that they should not question the attitudes of the reflexive actor, but rather, make him think about the way he acted, if it was the best way to act or if there was any more appropriate way. They then observed the strategies that Dr. Neves used to stimulate Pedro to reflect on his actions during the reflective session.

Jacira's reflective session was different from that of Pedro. In her case, the reflection was more focused on whether, when watching the screen, she perceived anything that she could improve as she gave her explanation of what a 'Cash book' is.

The use of two distinct teaching procedures was a strategy planned by Dr. Neves, with the aim of showing different ways of stimulating reflection. While Dr. Clara, Erica and Andre attentively accompanied Dr. Neves's performance during the reflective sessions, they made notes about the strategies she adopted and how those strategies influenced the reflections that could be seen in both Pedro and Jacira's responses. It was seen how their encounter with the images of their practices on screen, facilitated by Dr. Neves, influenced the reflection and responses about themselves in action. After the pilot experiment, Dr Clara, Erica and Andre reflected about their participation in the pilot study and wondered if they should have been more active during the planning, recording and reflection phases, or whether they really should have been observing and making notes?

Finally, on the third and final day of the Professor's visit, there was an opportunity for those involved in the project to evaluate the autoscopia procedure (the pilot experiment) conducted at the Incubator and make their final comments on the methodology. Dr. Neves analyzed Dr. Clara's overall research project and the work plans of each student, made suggestions regarding the application of the methodology to the specific case in which the researchers

wished to apply it. Judging from the pilot experiment, was the methodology valid for research or was it too invasive? What did Dr. Clara and students learn from this experiment?

Professor Clara, Erica and Andre wondered if they should go straight to the field research or if they should plan the research considering the phases of the autoscapy project?. They wondered if they should use traditional research methods or try to find an alternative to make communication easier with the garbage collectors and if they should make another field experiment before starting for real.

## TEACHING NOTES

### 1 LEARNING OBJECTIVES

This teaching case deals with the researchers' efforts to choose a suitable methodology for their context of the study - garbage collectors – and gain experience in it. Its goal is to demonstrate how to use autoscopia procedure. The case can instigate students to reflect on the formation of researchers and scientific initiation students. It can be used in undergraduate and graduate courses, for subjects that deal with topics such as research methodology, qualitative research, experiential learning, and researcher training. This study therefore aims to:

- encourage discussion among students on the contributions of autoscopia as a qualitative research method;
- raise students' awareness of the importance of research training;
- motivate students to discuss experiential learning in research practice;
- ask students to indicate situations where the application of autoscopia could be feasible.

### 2 DATA SOURCES

The data for this case study consists of the participants' reports, transcribed audio recordings of the reflective sessions and information and schedules documented during the activities carried out with the guest professor. The narrative contains elements of fiction, but without much relevance to the case. In the narrative, the names of the participants and the professors have been changed.

### 3 ALTERNATIVES FOR ANALYZING THE CASE

The teacher could ask students to read the case in advance, so they can discuss it among themselves and think about the subject before discussing it in class. On the day of the meeting, the teacher should organize the students into groups, so they can discuss issues involving the case and come up with possible solutions. In addition to organizing groups, some other steps are suggested: 1) notes made individually on the case will be discussed in groups; 2) groups are encouraged to reflect during the plenary debate; 3) groups present the discussions and reflections on the case; 4) in addition to reflections on the case, students could use the references presented throughout the text to help them discuss the issues.

### 4 QUESTIONS

Q1. Should researchers go to field only to collect data or should they adopt methodological procedures that can contribute to the garbage collectors' learning?

Q2. Given the characteristics of the garbage collectors, which methodological approaches could make it easier to communicate with them?

Q3. What are the methodological contributions for the training of new researchers, and for the garbage collectors' learning?

Q4. How should the autoscopia process be structured in order to support reflection and prevent the respondents from feeling intimidated? How can this structuring process contribute to the training of new researchers?

### 5 SUPPORT MATERIAL FOR CASE ANALYSIS

#### Posture in the field (Q1)

To achieve the goals of the research, the researcher has many options, and choosing can be challenging as there must be an understanding of which procedures can be used in each situation. In this sense, researchers may decide only to collect data or to adopt procedures of collaborating in the subjects' learning processes. That decision depends on the purposes of the research. However, when researchers decide to encourage individuals to learn from the analysis and reflection of their own actions in daily practices, it becomes important for the learning process and creative problem solving (SILVA, ARAUJO, CARAZZONI, 2016). Silva and Silva (2011) argue that reflection fosters learning, primarily through experiences, which broadens one's understanding of situations and one's ability to learn from mistakes and criticism. Antonello (2006) emphasizes the importance of the subjects' context, as this can influence the learning process.

### **Approaching the subjects and interlocution in the field (Q2)**

There are several alternatives that can make it easier to approach and talk to the garbage collectors. It should be kept in mind that these people are often semi-literate or illiterate, therefore less traditional methods, such as filming and photographs, can be a good strategy. According to Belei, Gimenez-Paschoal, Nascimento and Matsumono (2008), the use of filming to collect data allows the participants to review their actions and behavior and reflect on their opinions through analysis of their practice.

Another strategy that can make approaching and interlocution easier is action research (LODI; THIOLENT; SAUEBRONN, 2017). According to Lodi, Thiollent and Sauebronn (2017) as researchers see the need to approach scientific research into the needs of society, new methodological procedures emerge, and one of these is action research. According to Menelau et al (2015), action research approaches society and people, because it intervenes in the reality, to transform people and environments.

The research can also organize focus groups to make it easier to construct a collective learning knowledge (DUARTE, 2008). Lastly, Cardoso (2015), argues for the importance of bring scientific knowledge and society closer together, in order to align theory with practice.

### **Autoscopia and learning (Q3)**

Sadalla and Larocca (2004) report that autoscopia is the video recording of a practice aimed at analysis and self-assessment. This resource has great reflective potential for the protagonist of the practice. The authors also claim that the method contributes to research settings and to the formation and learning of different professionals.

In this technique, it is important for the individuals to obtain feedback on their activities, on what can be seen in their own actions, as well as in those of the subjects with whom they are interacting/acting (LINARD, 1980). Thus, the participant can observe not only their individual performance and also that of the other members of their group, which undoubtedly influences their opinions of their own personal performance.

In autoscopia when individuals see themselves on the screen, they can change, reorganize, or reformulate their actions, attitudes and stances. They can understand their own actions better and detect the causes and effects of their behavior. According to Almeida (1994), "the film circumscribes a space of time and illusion in which the mental categories that we use in our interaction with reality are already confined and transformed by the codes of a televised reality".

Tosta (2006) noted that autoscopia is a method that enables the subject to find out more about themselves and their way of acting, and provides them with conditions to confront their own practice. It can also provide ways of acquiring and expanding new knowledge, allowing them to form and expand other inter- and intrapersonal interactions. These considerations can contribute to the students' better understanding of the context and situations in which autoscopia can be used, considering its relevance in the development of strategies of research and reflexive intervention, according to Rosa-Silva, Lorencini Júnior e Laburú (2009). Silva and Silva (2011) demonstrated, in their study, that reflection plays a mediating role in learning, as it leads us to broaden our understanding of situations and learn from mistakes and criticism, as well as aiding decision making.

### **Structuring the process of autoscapy (Q4)**

In autoscapy, the image works like a hinge that articulates elements from the subjects real and imaginary worlds, personal experiences, motivation and knowledge (ROSADO, 1990). The person can contemplate herself in the video, from infinite points of view, becoming aware of herself, her image, the sound of her voice, her posture, her gestures and her attitudes. Ultimately, she can even perceive how other people see her. Seeing one's self in action prompts possibilities of reflection in the subject, leading to a change of behavior and attitudes, even though that is not the goal of autoscapy (FERRES, 1996). Therefore, this procedure should be applied in a way that, among other factors, allows the development of self-observation, self-criticism and interest in perfecting the action (FERNANDES, 2004). The process of autoscapy, according to Fernandes (2004) and Bourron, Chaduc, Chauvin (1998) should be structured in five phases:

Phase 1: Preparation: this is the moment when the research topic is decided on, and the context and subjects are investigated. The goals, contents, resources and strategies are defined. This plan is presented to the subjects and approved before starting the development phase.

Phase 2: Development: Video recording and editing sessions as planned in phase 1.

Phases 3 and 4: Viewing and Analysis. Each participant receives the edited video in advance, so that they can reflect previously on the video recorder experience. In the viewing session, the researcher must adopt a position of mediator to favor the reflective contact of the interlocutor who is confronted with his own image in video. At this moment the subjects have the opportunity to reflect on and review their behaviors and postures, recording and commenting on positive and negative aspects. Their comments are recorded, to compose the field data, along with the images from the video recordings.

Phase 5: Synthesis. Motivated by the researcher, the interlocutor presents a synthesis of the experience pointing out positive points and points of improvement evidenced through reflection and that need to be practiced in everyday actions.

### **ADDITIONAL REFERENCES - Formation of a researcher**

Researchers are active elements in the construction of knowledge and must be aware of their responsibilities and limitations (OLIVEIRA; PICCININ, 2009).

According to Carmo (2008), the training of the researcher is divided into stages: undergraduate research, scholarship programs created by CNPq, to encourage undergraduates to develop an interest in research; admission to post-graduate programs at Master, Doctoral, or Post-doctoral levels or starting work at a research institute; and finally, publication of the study conducted.

Fava-de-Moraes and Fava (2000) report the importance of scientific research for higher education students and emphasize its complementary role in improving their critical analysis, intellectual maturity, their understanding of science and future possibilities in both professional and academic fields. They highlight the need for people with expertise in technical and scientific fields to improve social and economic development.

In terms of creating knowledge, Pardo and Colnago (2011) stress the importance of this topic for the solution of community problems, making it necessary to assess and analyze how researchers are formed. In their survey (answered by Master students), the authors observed that the responsibility for the formation of a researcher at undergraduate level was largely attributed to the professor, because most of the responses were related to the aspect/category teaching-learning process.

Werneck (2006) concluded that the learning process should not be confused with that of scientific production, but must precede it. He also reports that in the learning process it is necessary to understand the content, and this could be understood as constructing the knowledge and cognitive structures of the subject. Even though these constructions of knowledge are drafted by the learners themselves, depending on the intentionality that interferes in the learning content to give them meaning, they are not totally independent or autonomous.

Thus, quality education should not be a storing of information, but the formation and development of the ability to analyze, which is crucial for scientific and technological production (WERNECK, 2006).

Regarding the action of the researcher, Oliveira and Piccinin (2009) argue that the adoption of a reflective behavior in the practice of research shows ethical considerations in conducting the research, and processing the data found, as well as a concern for and commitment to the way knowledge is constructed.

Finally, Teixeira, Zanoteli and Carrieri (2011) argue that the training of research subjects, in the socialization stage, occurs in their day-to-day lives and in the various relationships established along the way.

A study by Villard and Vergara (2011), which set out to analyze the teaching and learning practice in the process of learning how to research, concluded that experience in the field and reflection on it improved the subjects' reflection on their own practices, increased their awareness of their influence on the teaching-learning process, and enhanced the capacity-building policies of the teachers.

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