

Potential of the *Grow* model in the mentoring offered by rural extension technicians for professional and personal development of small dairy farmers



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ABSTRACT

This article presents the application of the "GROW model" (Goal, Reality, Options, and Will) in

mentoring in rural areas, as a tool for the learning process and professional and personal development in the work of extension technicians in small family farms. This empirical research presents a case study, carried out in the Global South region, in the work of a rural extension worker on a small property. The results indicate the potential contribution of the mentoring tool in the organizational learning cycle between the extension technician and the farmer. The process generated new guidelines and actions to improve the profitability of the activity and the well-being and self-development of rural workers. The study has practical contributions to the performance of TARE technicians and responsible and theoretical agencies for the studies of organizational learning in small rural properties.

Keywords: Mentoring, Organizational learning, Personal development, Professional development, Dairy farm, Technical assistance and rural extension (ATER), Small farmer.

1 INTRODUCTION

The personal and professional development needed to adapt to current technological innovations appears to be important for family farming production systems (Eastwood *et al.*, 2017). This development may be a result of the organizational learning process stimulated by rural extension technicians, through tools such as mentoring, to support the productive, commercial, organizational, environmental, and financial processes of farmers (Landini, 2022).

Family farming can develop, in general, in complex production systems, combining various crops, animal husbandry, and primary transformations, both for family consumption and for the market (Tinoco, 2006). From this perspective, it is possible to say that family farming is formed by small organizations that seek economic results and are part of a system that relates customers and suppliers and that makes up a complex network like any other organization. According to Landini (2022), for these complex production systems, personalized approaches in mentoring programs that consider the specific context are important.



The specific context in this study is dairy production, located in the Global South region of Brazil, which faces several challenges: environmental climate (Peixoto, Andrade and Pires, 2023), financial and economic challenges such as fluctuations in market price, low productivity, and high costs, improvement of management techniques, planning for herd size and proper management of the property (Teodoro and Marcomini, 2023). Further alerting the actors involved in the dairy production chain about the need for training, professionalization, and managerial improvement of the sector.

The role of extension workers, rural extension technicians, also called, ATER¹ (Technical Assistance and Rural Extension) technicians to facilitate the organizational learning processes that occur in group relations between farmers, research institutions, private companies, banks, cooperatives, and other *stakeholders* of the sector. It is also their role to assist the small farmer in the management of his business, through a professional practice characterized by the availability of information and advice, and by the productive, commercial, organizational, environmental, and financial monitoring of his organizations (Landini, 2022).

According to Landini, Brites, and Mathot and Rebolé, (2017), some actions can influence the way these professionals act. These authors argue that there is a need to advance in the conceptual discussion of rural extensionists, systematize innovative training practices, and research more appropriate training for these extensionists. In addition, they present some changes in the conception of performance of these technicians, in a more horizontal, interactive, participatory, interinstitutional way and a conception of innovation linked to the diffusion of predefined technologies through the interaction between social actors with different experiences, types of knowledge, and capacities.

An example of this way of acting would be the method presented by McQueen & Janson (2016), which addresses the construction of tacit knowledge on dairy farms in New Zealand. The studies present tools that facilitate organizational learning and consequently evidence the spiral of knowledge. Their strategies are focused on the development of ATER professionals and providing tools to work with farmers.

However, there is a gap in the literature on the tools to be used and the forms of action of the extension technician so that their actions become more effective and personalized to each situation found in rural properties. According to Greenhalgh & Rawlinson, (2013) promoting successful case studies of mentoring programs can help solidify mentoring as a valuable learning option in rural settings. In addition, Templeton, Abdelrahman & Donop, (2023, p. 307) "understand mentoring as the acquisition of clarity necessary to develop and hone specific skillsets is a phenomena worthy of

¹ According to the Brazilian Ministry of Agriculture and Livestock and Supply (MAPA, 2016), ATER technicians have the function of guiding rural producers and breeders of social segments linked to the exploitation of agribusiness, in techniques of planning and management of crops and processing of production, aiming to boost the sustainable production of agricultural systems in production units



continued empirical consideration". From this scenario, it is necessary to describe one of the tools that can be used by the ATER technician.

Mentoring, a personalized work method, is a knowledge management tool that has become increasingly present in corporate education and human development programs in organizations (Oliveria Neto & Souza-Silva, 2017; Costa & Brum, 2019). It is known that mentoring can be beneficial to formalize and expand the informal orientation relationships existing in rural areas and can help ensure the continuity and effectiveness of mentoring over time (Landini, 2022). What techniques can be used and what results can be obtained? To answer this question, a case study was selected that used the GROW technique (*Goal, Reality, Options, and Will*).

The objective of this study is to describe how the "GROW model" was applied in a mentoring process carried out by an extension technician in a small family property and what contributions were observed related to the professional and personal development of those involved in the process.

The scenario in which the case study is analyzed is a dairy farm that is situated in the state of Santa Catarina. This state, according to Magalhães Junior; Hott & Andrade (2023), produced 3.1 billion liters of milk, corresponding to 8.95% of the national production, positioning itself as the fourth largest milk producer in Brazil.

1.1 MENTORING

Knowledge Management (KM) is understood as "an integrated approach of creating, sharing, and applying knowledge to improve productivity, profitability, and organizational growth" (APO, 2009, p.42). The use of KM techniques in rural activities provides conditions for the rural producer to identify, evaluate, and plan results in each phase of the process, leading to a better capacity to evaluate the conditions of insertion in the competitive market (Dorr, Guse, Freitas & Rossato 2012).

For that, organizational learning has been proposed as a strategic process and the only sustainable competitive advantage in the future (Vera & Crossan, 2004). Seen as a process of changing thinking and behavior (Crossan et al., 1999), organizational learning (OL) can contribute, to generating the changes that organizations need to adapt to the demands that constantly arise.

Both KM and OL, more than strategies for the growth of a business, are actively built in a social environment, that is, in the interaction between people. The learning activities that allow the sharing of knowledge such as imitation, guidance, mentoring, coaching, supervision, and even group or collective work, accelerate a development process and enable the creation of new knowledge, which is essential for the success of the business and for the people involved (Dalkir, 2005).

The focus of this study is on mentoring, a developmental activity characterized by a trusting relationship between the mentor, the most experienced professional, and the mentee, who is the learner, also called protegé, (Jeong, Irby, Boswell & Pugliese, 2018). In the course of the *mentoring work*, the



mentee "acquires skills, self-confidence and positive professional behaviors that aim to contribute to the decision-making process regarding their goals and their professional trajectory (Oliveira Neto & Souza-Silva, 2017. p 65).

The mentoring process brings advantages to both mentors and mentees, as well as bringing benefits to organizations. Mentors can gain recognition, enriching experiences, and improvements in professional performance. On the other hand, minds can increase their employability, competence, motivation, and communication skills. In addition, mentoring also positively impacts organizations, influencing change, effectiveness, talent retention, and organizational learning. In addition to all this, the mentoring relationship plays a role in the transmission of culture, values, and organizational knowledge in different areas and generations, contributing to the ongoing health of the organization (Jeong, *et al.*, 2018).

Mentoring emphasizes the role of mentor-mentee dialogue in shaping the mentoring relationship and facilitating knowledge exchange (Landini, 2022). In mentoring work, the mentor uses different strategies to help his or her mind develop new competencies and to explain the knowledge that is tacit or that is being learned in the ongoing training and development relationship. The GROW model is one of the strategies that will be described below and proposes tasks that enable self-development. The GROW model represents one of the strategies that will be described below, aiming to propose activities that enable self-development.

1.2 THE GROW MODEL

The GROW model, *whose* expression means growth, is an anagram of the words that indicate the four stages that make up the technique: *Goal*, *Reality*, *Options*, and *Will* (Whitmore, 2012; Krausz, 2007, Costa & Brum, 2019). The technique aims to encourage people to take responsibility for their work and their career, with its primary strategy being the Socratic method, a technique that stimulates reflection through questions that generate awareness and responsibility, as stated by Whitmore (2012). It is a technique widely applied in the organizational world, in coaching and mentoring processes (Lages & O'Connor, 2010; Costa & Brum, 2019).

This technique allows minds to broaden their self-knowledge and the ability to work focused on goals aligned with their values (Whitmore, 2012). There are four dynamic stages in which the coming and going between the stages of goal, reality, options, and will of the model, are experienced by the mentee, throughout the mentoring process. Table 01 presents the steps, explains their objectives, and exemplifies some respective issues.



Table 01: Presentation of the stages, the objective of each one, and respective questions.

Stage	The objective of the stage	Questions that can be used:
Goals	Assists in determining the goal to be achieved, usually linked to a problem to be solved. It can be broken down into end goals and performance goals to measure progress toward the larger goal.	What would be your professional goal? What do you hope to achieve in this job? When would you like it to happen?
Reality	It checks facts and data and observes what is happening in the organization and in the context in which the mentee is found. It is possible that during this process, it will be necessary to go back and review the definition of the goals.	What's happening now? How do you feel about that? What are the facts? What concern is behind this dissatisfaction?
Options	It expands the possibilities. It's time to create and list as many lines of action and alternatives as possible. At this stage, the quantity of options is more important than quality and viability	What options do you have? What have you tried? What else could you try? What if that obstacle didn't exist? How would you rate these options on a scale of 1 to 10?
Will	Evaluate the options listed and choose one of them. At this time, the mentor should not impose his ideas. It's the mindset's values, beliefs, and commitment to your plan that will increase your chances of success.	What will you do? When will you do it? What kind of support do you need? Will this action help you achieve your goal?

Source: prepared by the authors based on Whitmore (2012), and Costa & Brum (2019).

In addition to the issues in Table 01, activities such as imitation, guidance, supervision, and group or collective work are other strategies that enable the personal and professional development of the mentee.

The important thing is that the mentor and mentee work together, in a relationship of trust and sharing of knowledge, aligned with the values (Templeton, Abdelrahman & Donop, 2023) and purposes of the mentee, to generate the engagement and dedication necessary to achieve the initial goal.

1.3 FAMILY FARMING IN BRAZIL

The important contribution of family farmers to world agricultural production is evident. Although there are varying definitions between countries, there is a consensus that there should be family labor and that work produces most of the family's income. In this concept, approximately 90% of all farms in the world are considered family farms and are responsible for producing most of the world's food (Paes *et al.*, 2018).

Although inserted in local productive logic and circumscribed to specific territories, family farming is exposed to competitive paradigms that are global. Thus, regardless of the markets to which they intend their production or the marketing channels they use, this segment must be able to count on decision-support tools appropriate to their organizational culture and limitations in terms of formal education and general conditions of the environment in which they are inserted. These tools are not



only useful, but increasingly indispensable for the sustained competitiveness of their enterprises (Batalha, Buainain, & Filho, 2004).

Also, according to Eastwood *et al.* (2017), digital transformation will reshape agricultural practice, with less manpower and a data-driven approach. Different skills will be required for all agricultural production actors to utilize and adapt to smart agricultural technologies, as well as the development of adapted consultative structures, including agricultural service providers. In this context, the work of rural extension technicians is of great importance and needs to consider these new characteristics.

According to Landini, Brites, and Mathot Rebolé, (2017), it is these extension technicians who have to deal not only with technical production issues but also with the management of various processes. They must perform a series of functions that involve the facilitation of relationships and consensus among actors, the development of individual capacities, the support of horizontal learning processes, and the mediation of managerial conflicts. To this end, a strong psychosocial component is required of the extensionist.

2 METHODS

This case study aims to describe a specific situation in depth and "simply seek to discover and understand a phenomenon, a process, or perspectives ... of the people involved." (Merriam, 1998, p. 11). The theoretical foundation of this fieldwork was carried out with a narrative literature review on the main themes: organizational learning, mentoring, the GROW model, and family farming. As stated by Motta-Roth and Hedges (2010), the literature review allows referencing previous studies and thus characterizing research and academic writing as science.

Data collection was performed with the documentary analysis of the records made by one of the authors of this chapter, who is also an ATER professional. The records were made during the work of technical assistance and rural extension to the small farmer José, (not his real name), to assist him in the management of his dairy farm composed of 65 matrices of predominantly Dutch dairy cows, between January 2017 and June 2018.

The analysis was made from categories of analysis of the model with the actions recorded in the field diary studied. A case study is intended to deepen the knowledge of the phenomenon under analysis and, if possible, identify new perspectives of the empirical data analyzed (Merriam, 1998), contributing to broadening and completing the reflection on the way ATER technicians act. In addition, it is expected that qualitative analyses can contribute to the formulation of hypotheses and modeling of variables in future quantitative studies on mentoring and the development of professionals in small farms.



3 PRESENTATION OF RESULTS

The following data were collected from the field diary records of one of the authors of this article, during his activity as an ATER technician. The technical assistance work began with a conversation about the needs and current context of José (Farmer). At this stage, it was important to ask the small farmer José directly, which he hoped to solve immediately. Once the need to know what their profitability was in the dairy industry was detected, information was sought that could help immediately, in the medium and long term.

Participating in their daily lives and recording the procedures performed, regarding the management of the herd, feeding procedures, hygiene, and health care of the animals, was important to understand all the processes involved in the dairy activity. These processes were monitored weekly throughout the analysis period.

At the end of this stage, questions were asked: What if you do it differently? What if I changed this little procedure to this other one? What are the greatest difficulties encountered in performing this or that particular procedure? Let's ask another producer who already does it differently to get his opinion.

Specific spreadsheets were developed to assist in the basic records in addition to software (Contagri) developed by EPAGRI² to assist in the calculations of costs, profitability, monitoring of the herd, and other controls. This same software provided, in real value, the answers to the initial questions about the profitability of the dairy activity on José's property.

Interpreting and bringing the observed financial results, and, in a simple way, bringing the suggestions for change, were part of the mentoring analysis process. Thus, after a year of follow-up, in a meeting with all those involved in the process, the data and results of the activity were presented and discussed with José and his family. At the end of the meeting the questions arose: What can we improve to achieve profitability? What would be the priority of the actions to be taken? What are we doing wrong? What actions have already been taken that are working and should be maintained?

The procedure of collecting and recording the data was not routine in the activity of José, who did not always write down all his expenses. However, these notes became a less tiring and tedious task after he saw the result and the analysis of the data he reported.

Over the first year, several herd management procedures needed to be improved. For this to be possible, it was necessary to increase the network of technical information on health, feeding, and management. The way found was to approach the other technicians and veterinarians who accompanied José, who had relevant information that could help in the correct conduct of the reproductive, sanitary, and nutritional management of his herd.

² EPAGRI – Agricultural Research and Rural Extension Company of Santa Catarina.



It was also noticed that there was a personal dissatisfaction regarding the time available for leisure and rest. Dairy activity is an activity that demands uninterrupted daily constancy, every morning and every late afternoon the cows must be milked. This constant stay in the stable, without vacations and weekends, can generate internal conflicts and stress for the driver of the activities when there is no help from external collaborators.

Doubts constantly arose and seeking new connections and information, which the internet and research centers provided, was important. This information presented solutions and suggestions for small management adjustments needed to improve the profitability of the activity. For this, monthly meetings, formal and informal, were held to discuss changes in the current management system.

We used videos, technical presentations, discussion of problems, and suggestions of solutions in the meetings, which did not exceed an hour and a half and had the participation of family members and employees. The main objective was to promote reflection on the current procedures, and to think about the possibility of changes, already presenting and building new alternatives.

The production systems are complex and specifically in this case study, they required the combination of knowledge and management of various areas, productive, sanitary, and nutritional. This complexity extended to how to manage all the processes involved in generating value from the activity. These processes involved daily, weekly, monthly, and annual planning of pasture planting, harvesting, storage, herd management, sanitary control, reproductive control, and sale of their products. In addition, the management of its employees and the family itself was the most active and the only labor available uninterruptedly. To assist in the reflection the following questions were asked: What do you intend in 1 year? And 5 years from now? And 10 years from now? Who will succeed him? How far do you intend to go?

To help him construct his answers, he went to visit a larger producer, so that José could understand what he would have to do if he wanted to become a producer of more than 200 dairy farms. According to José himself, this visit was "excellent", because it can verify the difficulties, the complex processes of management, and the conduct of larger herds. His conclusion was quick, on the same day he said: "I do not want to increase my flock, this all needs a lot of people to work, I will need to always be together, there will be no time left for anything!! I don't want all that!!"

The ATER technician, when scheduling the visit had no specific objective of convincing José, only to get him to know and know how it would be to invest in more dairy breeders. What surprised the mentor was the speed and conviction of José's response when faced in practice with a situation hitherto only imagined.

When José observed the profitability results of the activity, reflected, and understood that all his effort spent on the dairy activity was not bringing him the expected financial results, internal conflict was established. This reflection, added to his way of facing the problems left him in a state of



dissatisfaction so great that he needed professional help to equate the emotional and financial issues involved in the management of his business and to equate the internal conflict that was evidenced.

After all the work, José came with the decision ready and convinced: "I don't want to produce milk anymore!" For the mentor, this decision was not expected. However, it was the result obtained in the work of reflection on the activity, the numbers presented, and, mainly, on his life goal.

The year-and-a-half process of follow-up resulted in significant changes in the lives of José and his family. Currently, the dairy production part is leased, and he continues to develop other agricultural activities that were previously part of his income. In recent visits of the ATER technician to his property, it was visible the positive changes related to his emotional and financial balance and improvement of the quality of life.

4 DISCUSSION OF RESULTS

For a more didactic analysis, we chose to highlight each step of the *GROW model* that was identified in the description of the case studied and list the evidence in the reported process.

The first stage, *GOAL (G)* or goals, was used to define objectives and measure the performance of the process towards the main goal, setting expectations and deadlines. Questions related to personal and professional goals were used. In the account made, they appear in three moments: at the beginning of the work, in the middle when he thinks about the succession process, and at the end, when José has the clarity of what he does not want.

The questions asked in this case for this stage: What is the purpose of hiring the ATER technician? What do you want for the future of ownership and business? What does the farmer want to achieve in 1, 5, and 10 years? Who will be his successor? Where do you want to go?

He has the answers to the questions at the beginning of the work and sees that his economic result is not satisfactory.

It was noticed in the accomplishment of the work that the four stages were constantly revisited throughout the process, as the questions were answered, the knowledge explained, the learning occurred and new knowledge emerged. In José's case, steps R (reality) and O (options) occurred almost all the time.

The reality (R) was verified by *on-site* observation, creation of spreadsheets to record operational and financial control, visits by the mentor, research on herd management, data analysis of how it was done and how it could be improved, in addition to visiting other producers.

Some options (O) of control were presented: Excel spreadsheets and software that facilitated the control and management of the business. It was perceived the need to increase the network of technical information on health, feeding, and management and for this, contact was made with other people, professionals, veterinarians, technicians, and properties to verify, in addition to the reality



around them, other possibilities and market options. It was the sharing of knowledge that made it possible to carry out the work in these two stages.

Questions asked José at this stage of the process: What if you did it differently? What if I changed that procedure to this other one? What are the biggest difficulties encountered in performing this or that particular procedure? Are there other people who can serve as an example?

The entire work team was involved, as the mentee would need support to maintain their new decisions. In this meeting everyone was able to share ideas, and experiences and enrich existing knowledge, creating alternatives and new possibilities. By carrying out this collective work, the mentor increased José's support network, with the use of other KM tools: internal meetings, benchmarking, knowledge visits, and best practices (Dalkir, 2005). Social processes are essential for organizational learning, which can only be considered institutionalized by the organization when everyone involved applies the learned behaviors (Crossan *et al.*, 1999).

Evidence of the will stage (W) is the question of the type: what can you improve to achieve profitability? What would be the priority of the actions to be taken?

The finding the mentee, that he was not satisfied with his quality of life, with the lack of time for leisure and rest and with his economic result made him decide for a new professional choice. A clear moment for *Will* was when José while visiting the large estate, decided he didn't want it for himself. The speed in José's decision may be an indication that the previous steps were done with consistency and with the involvement of both mentor and mentee. The lived experiences: of research, search for options, and sharing of knowledge, generated a new behavior (Crossan, *et al.*, 1999; Whitmore, 2012, Prado, Mello, Steil, 2023). As a process, Mentoring involves the deeper development of the individual (Irby, 2012), so the mentee can now build new possibilities more aligned with their values.

A highlight should be given to the entire support network that the ATER technician utilized to carry out his mentoring work. This included veterinarians, other technicians, YouTube resources, support from EPAGRI, and the recommendation of psychological assistance during a critical emotional moment. Evidence of the use of activities, in addition to the *GROW issues*, appears in the report of the meetings of all those involved in the work, in technical visits, and in the search for information such as videos, texts, and conversations with other farmers. This process reinforces the idea that the value of mentoring lies in being a process that allows for personal growth and that of others involved (Templeton, Abdelrahman & Donop, 2023), especially between mentor and mentee.

The mentor created different opportunities to share and enrich (Uriante Jr., 2008) the existing knowledge, not only in the leading farmer but in all the professionals and family members who were part of the business. Through these experiences and the *mentoring* process, the farmer had the opportunity to broaden his knowledge, and his learning tools and incorporate new skills and



capabilities. He expanded his readiness to act coherently and effectively with his life and professional goals.

Although the farmer chose not to work with the dairy sector anymore, he continued to engage in family farming activities, selecting segments and modes of operation that were more aligned with his quality of life goals. This fact has been observed during recent follow-up visits by the ATER technician. The leasing of his dairy infrastructure created an opportunity for another farmer to take on the work, enabling them to achieve economic sustainability and personal and professional.

5 FINAL CONSIDERATIONS

This case study describes a situation in which mentoring, one of the tools of KM, generated organizational learning through knowledge sharing. The objective was achieved and it was described how the mentoring, with the use of the "*GROW* model", contributed to the creation and sharing of knowledge in the work of extension technicians in small family farms. In addition, in this specific case, it allowed the mentee to reflect on the organizational processes involved in his activities, focusing on those that brought him financial results and that allowed him a little more freedom for leisure, and the professional development extended to the personal life of the mentee.

In this way, the mentoring generated new knowledge and enabled the transformation of the reality of the farmer and his organization. The knowledge in the joint work of the technician and the farmer brought new guidelines and improvement actions for the profitability of the activity and the well-being of the rural worker. It was verified the importance of the works developed by the extension technicians, who by knowing the profile of the producer when considering the context in which he was inserted and respecting the existing knowledge, can, promote reflection on the new knowledge needed and the need to open the way for new learning and possibilities.

The *mentoring* tool, with the use of *the GROW* model, enabled the self-knowledge of the small farmers, who had the opportunity to reflect on their worldview, values, and beliefs. It allowed their learning and the development of new skills. It gave the farmer subsidies to make new choices, more consistent with his values and desires for quality of life aligned with satisfactory financial results.

The ATER technician does not know all the answers, and in the role of mentor, if he knows how to conduct the work with the farmer gently and respectfully, he can help him discover them. It is up to him to create a space of trust and security, for the mind to discover his answers. Create a space for exchange, reflection, and questioning. Seek partnerships and more information, making the environment even more conducive for the farmer himself to find solutions to his problems and feel able to solve them, or decide that that problem no longer fits him and can be transformed.

In this study, the *GROW* model contributed to the performance of the ATER Technician to the extent that it grounded the stages of the work and showed some steps to be followed. It is hoped that



this study will contribute so that institutions that work in the training of ATER technicians or that provide rural extension services can benefit from the tools and methods presented here and reflect on their performance in the field. This is a way to expand the awareness of ATER technicians regarding their responsibility and potential for transformation.

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