EFFECTIVE TEACHING-LEARNING METHODS AND TECHNIQUES APPLICABLE TO VETERINARY MEDICAL PRACTICE

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Abstract

This paper highlights the importance of diversifying teaching methods and learning techniques in practical training in veterinary medical field, aiming a more efficient instructive and educational process.
This study was performed using the methods: investigation and psycho-pedagogical experiment on groups of internships students in livestock units, veterinary laboratories and food processing units.
Within the scientific approach were investigated several teaching and learning methods and techniques: brainstorming, brainwriting, case study , simulation , reciprocal teaching and learning and stellar explosion.
After applying these methods and techniques, it was observed a significant progress in understanding and assimilation of content and better transposition of the theory in practice.
Interactive teaching strategies promote active learning, the students organized in small groups are working together and colaborating, to achieve and realize their objectives.
All teaching-learning investigated methods can be used successfully in the practical training of veterinary medical students.

Key words: *learning, medical, methods, practice, teaching.*

INTRODUCTION

Practice of speciality represents a method, a very efficient process in reaching to a specific result.
Practical training requires great skills not only from students but especially from practical coordinators and all those involved in the training process.
For obtaining the desired results, students need to be trained in different and various activities using effective an attractive methods of learning for them (Neacsu, 1999).
In this paper we intend to highlight some applicable teaching-learning methods wich are effective in veterinary medical practice.

MATERIALS AND METHODS

In veterinary medical fields, practice is conducted in specialized units (farms, laboratories, sausage factories, breeders of birds etc.), where students attend and participate to certain veterinary activities, coordinated by veterinarians, helping the investigation, diagnosis and the applying of appropriate treatments for some diseases. Most indicated teaching strategies in veterinary practice could be:

Methods and techniques based on solving problems (brainstorming, techinique 6/3/5)e.g. performing differential diagnosis, techniques for semen collection, diagnosis of podal affections;

Methods and techniques based on experience (case study method, simulations); e.g. dystocia simulation;

Methods and techniques for development of comunicative competence (reciprocal teaching-learning method) e.g. surgery;

Methods and techniques of interactive-creative learning (stellar explosion) (Dogaru-Ulieru, Draghicesu, 2011).

Methods are carried out in several stages as seen in Figure 1.

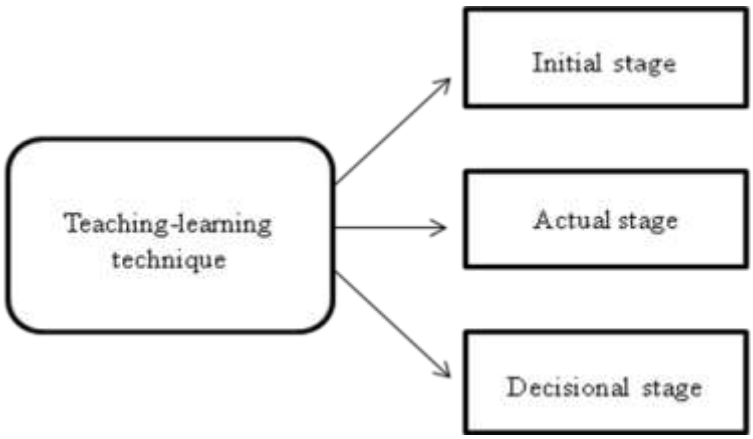

Figure 1. Working stages of teaching-learning techniques

RESULTS AND DISCUSSIONS

Brainstorming (assault of ideas) purpose is solving of a case by issuing a large number of solutions, ideas. The method is conducted within a group of up to 30 students, the theacher/ the coordinator assuming the role of moderator.

The rules of this methods are: do not criticize any suggestion, all ideas has knowledge character; are required the ideas of all group members; the quantity of ideas is less important than the quality.

The method is carried out in several stages: preliminary stage comprising three phases (phase of organizing, creative training and preparation phase of the session, the second stage of issue of creative alternatives by fixing the case, the problems to debate and by solving subproblems through issuance of ideas; the third stage which aimes the issued selection ideas – the list of ideas is analyzed and they opt for the final solution (diagnosis and treatment).

Figure 2. Teaching in a pig farm

Technique 6/3/5 (brainwriting) is realized in writting, it is similar with brainstorming. The ideas are noted on the sheet (six students issue three solutions in five muntes).

Also this method involves several steps: firstly the students are divided into groups of six, in the second stage, each student receives a sheet as shown in table 1; in the next stage, for the problem we discuss, each student

notes on sheet three ideas in five minutes and then the sheets walks fom left to right until the original teacher ; finally the solutions are analyzed and selected the correct ones.

Table 1. Brainwriting worksheet type (by Negreţ-Dobridor, Pâinişoară,2005)

Problem/case:			
Student/ Name and First name	Idea 1	Idea 2	Idea 3

Case study method

This method target is the analysis of one or more cases after which is possible to reach general conclusions. It is used for the creative application of one experience already appropriated, and not for enriching the knowledge with new aquisitions.

The stages of this method are: presentation of the case (clear, accurate, complete); clarify the possible misunderstandings; individual case study (students are documenting, they identify solutions to solve the case and complete the observation worksheet); the possible diagnoses are discussed in group (is made the differential diagnose), it takes a decision regarding the suitable solution (diagnosis and treatment); the solutions are evaluated with the students (Oprea, 2006).

Figure 3. Teaching in a milk processing unit

Simulations

Students are faced with the situation to live an experience of learning simililar to real experience, without negative consequences.

Firstly are determined the objectives of learning, then ensure the necessary materials for simulation (instruments, casts,consumables etc.); the team is divided into minigroups (if necessary) and is fixed the working time. The method is completed by making activity reports in which students describe the simulation activity (Painisoara, 2008).

The method of reciprocal teaching-learning

This method was introduced in 1986 by Palincsar and it refers to dividing the group of the students participating to the practice speciality in groups of reciprocal teaching-learning.

It involves four learning strategies: summarizing (exposure of what is important in the case study), making questions regarding the case presented, discuss the unclear informations and solving the misunderstanding, express students opinions about what will heapen next (evolution).

The ways it can be used:

The student group receives the case study and it is divided in four subgroups: first subgroup consists of „people to summarize'' summarize the esential informations; the second subgroup consists of „questioning people" (adress questions concerning the described case); third subgroup consists of „clarifying people" (clarify the possible unclear information); the fourth subgroup consists of „predictors" which presume the further evolution.

Finally, after discussions, each group exert their role in front of the other groups.

Stellar explosion

This method is similar to brainstorming, which develops the construction of ideas on ideas. Stellar explosion stimulates creation of questions to questions, so it can not be confused with brainstorming.

The problem to debate is written on the panel (to be seen) then are made as many questions are related to this method.

Stages: propose the problem; the group of students is divided into subgroups, everyone noting the problem; every subgroupe elaborates a list with questions about the proposed theme; are communicated the group activity results ; are highlighted the most interesting questions.

Within these activities students are involved in their own training.

Interactive teaching strategies improves the formation of some competences such as restructuring abilities and the practical use of knowledge, in training and development of investigation and exploration capacities, to value students knowledge and abilities in real situations, making the connection between theory and practice.
Interactive teaching methods has evident formative effects , but it is not excluded the possibility of, some manifestation limits as: lot of time to use, encourage passivity of students if the tasks are not carefully distributed by the teacher, the superficial treating of work tasks, difficulties in identifying and evaluating individual progress.
For all that teaching strategies has more advantages than disadvatages , for that we recommend practicing this to all teachers.

CONCLUSIONS

Interactive teaching strategies promote active learning, the students organized in small groups are working together and colaborating, to achieve and realize their objectives;
The teacher becomes a facilitator of learning activities, an organizer of a learning environment tailored on students specific needs and particularities;
All teaching-learning investigated methods can be used successfully in the practical training of veterinary medical students.

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